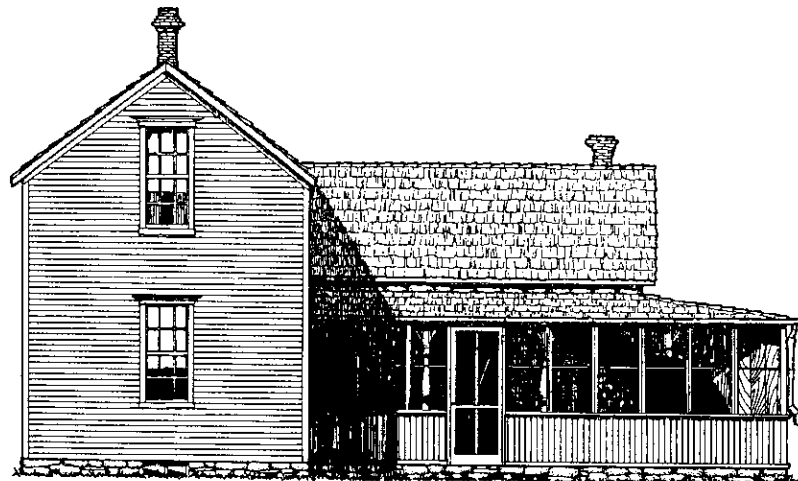
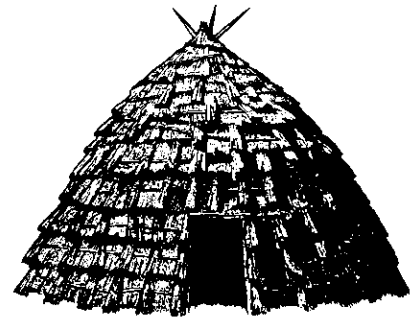
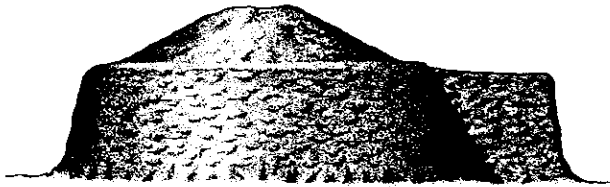


UNIT FOUR

PRAIRIE FARMHOUSES



UNIT FOUR: PRAIRIE FARMHOUSES



INTRODUCTION

This unit is the culmination of a four-part study. Its topics can be integrated with the earlier units. The guide is designed for use as a five-day unit (Monday-Friday) with a day of getting ready on the previous Friday.

The bookmark template and Handout #4: The House that They Built follow on pages 160-164. A variety of projects are suggested, starting on page 165. Each day's teaching materials has a theme (Getting Ready plus Day One: Space, Day Two: Time, Day Three: Place, Day Four: Home, Day Five: Heritage) and includes background information, vocabulary, a worksheet, and seven topics for study. Glossary and sources are located at the end of the book.

This unit introduces some common archeological, architectural, and environmental terms and asks students to investigate their own time and place. They will identify some elements in the built landscape. Exercises help students place buildings, people, and events into temporal and spatial contexts, identified by culture. Kansas poetry, songs, and stories are used extensively as a vehicle for learning about culture, archeology, the built environment, place, space, and time. Quotations from archeologists and other specialists provide insights into the study of the past.

Description of Themes

| | |
|---------------------------|--|
| Day One: Space | Spatial context and introduction of cultural perceptions of space. |
| Day Two: Time | Temporal context and time lines. |
| Day Three: Place | Cultural context. |
| Day Four: Home | Sense of place. |
| Day Five: Heritage | Commitment to stewardship. |

Topics Table of Contents



Prairie Farmhouses

| | |
|---------------|----------------------|
| Getting Ready | A Place to Call Home |
| Day One | Cultural Blueprint |
| Day Two | Grass House |
| Day Three | Earthlodge |
| Day Four | Stone Cabin |
| Day Five | Hay Bale House |



Archeology

| | |
|---------------|--|
| Getting Ready | What House Remains Tell Archeologists |
| Day One | Time Has Done Much |
| Day Two | When the Archeology Team arrives ...grass house |
| Day Three | When the Archeology Team arrives ... earthlodge |
| Day Four | When the Archeology Team arrives ... stone cabin |
| Day Five | Map the Site |



Architecture

| | |
|---------------|--------------------------------|
| Getting Ready | Cultural Determinism |
| Day One | Basics |
| Day Two | Form: Beehive, Tensile |
| Day Three | Form: Rondavel, Post and Beam |
| Day Four | Form: Rectilinear, Compression |
| Day Five | Testing on Architectural Terms |



Context

| | |
|---------------|----------------------------------|
| Getting Ready | Cultural Sequence |
| Day One | Spatial Context: The Grid System |
| Day Two | Temporal Context: Time Line |
| Day Three | Cultural Context: Artifacts |
| Day Four | Sunshine Farm |
| Day Five | Perspective |



Words and Music

Poetry

| | |
|---------------|--|
| Getting Ready | Poetry, "Thistle, Yarrow, and Clover" |
| Day One | "Space," "The Land of the Crippled Snake" |
| Day Two | "Out of the Dreaming Dust," "For Farmers" |
| Day Three | "We Have No Word for the Spirit of the Place" |
| Day Four | The Earth Is Wide, "The Old Settler," "Journey West" |
| Day Five | Recitation or Writing |

Myth

| | |
|---------------|-----------------------------|
| Getting Ready | Myths, Pomona and Vertumnis |
| Day One | Demeter/Ceres |
| Day Two | Red Bean Man |
| Day Three | Clytie, Sunflower |
| Day Four | Rain Follows the Plow |
| Day Five | A Good Imagination |

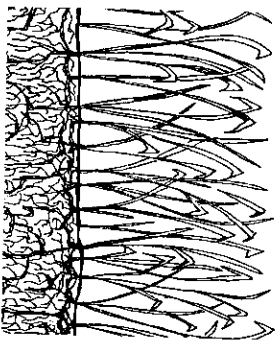
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|--------------------------|---------------|--|
| Tall Tale | Getting Ready | Tall Tales |
| | Day One | Dirt, Frogs, Tornado |
| | Day Two | Oxen, Popcorn |
| | Day Three | Sunflower, Pumpkin |
| | Day Four | Mud |
| | Day Five | Tall Tale Theater, Preposterous Postcards |
| Folk Music | Getting Ready | Folk Music |
| | Day One | "Little Old Sod Shanty on My Claim" |
| | Day Two | "When I First Came to This Land" |
| | Day Three | "Kansas Land" |
| | Day Four | Folk Instruments |
| | Day Five | Folk Instruments Performance |
| Song and Ceremony | Getting Ready | Note about American Indian "Poetry" |
| | Day One | This Country Mine |
| | Day Two | Wichita House-Building Prayer |
| | Day Three | Segment from the Pawnee <i>Hako</i> Ceremony |
| | Day Four | "Bless This House" |
| | Day Five | Commitment Ceremony |

*** Families and Neighbors

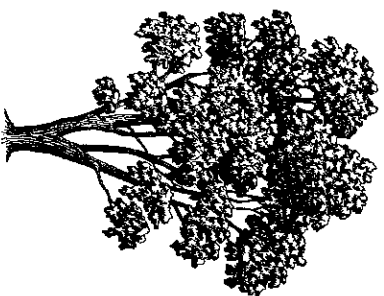
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|---------------|-----------------------------|
| Getting Ready | Pioneers and Settlers |
| Day One | Prairie Plants as Neighbors |
| Day Two | People in Neighborhoods |
| Day Three | Sunflower Family |
| Day Four | Sustainable Family Farming |
| Day Five | Let's Be Partners! |

“” Quotation

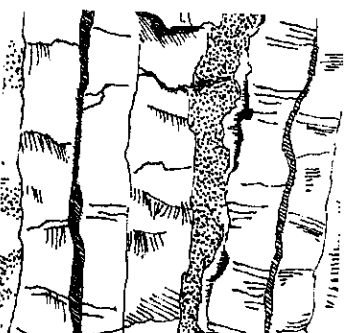
| | |
|---------------|--|
| Getting Ready | Public Archeologist Virginia Wulfkuhle |
| Day One | State Archeologist John Reynolds |
| Day Two | Journalist Richard Manning |
| Day Three | Plant Ecologist Kelly Kindscher |
| Day Four | Geomorphologist Rolfe Mandel |
| Day Five | Preservationist Richard Moe |



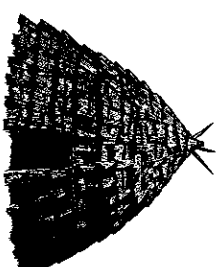
Grass is the bounty of the prairies. Long roots bind the soil and protect the grass from hard times above ground.



Shrubs, vines, and trees line the banks of prairie waterways. Here saplings have a chance to grow into mature trees.



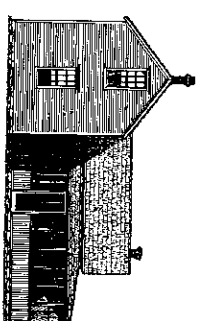
Layers of limestone were once ancient ocean floors. Little sea creatures and ocean plants lie trapped as fossils in the stone.



Grass House



Earthlodge

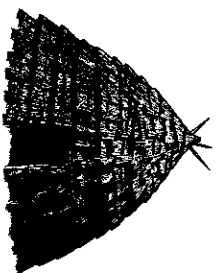


Farmhouse



(name)
is a partner in
preserving the
archeology of Kansas . . .

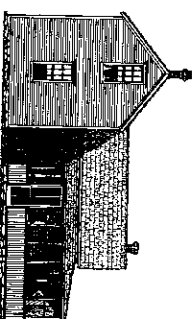
. . . and knows that our
state's sites are unique,
our past cannot be
replaced, and every
Kansan must
STAND GUARD!



Prairie people have used grass to build houses—bundled to shed rain, packed to insulate, and cut as sod blocks.



Cottonwoods and other trees became timbers for building houses. Younger trees provided more flexible wood, and bark fibers made tough cordage.



Soft greenhorn limestone could be cut and shaped into building blocks.

Archeology Office

Kansas State Historical Society
6425 SW 6th Ave.
Topeka, KS 66615-1099

785-272-8681 ext 266
vwulfkuhle@kshs.org

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Vocabulary
cultural blueprint
post and beam
stringers

Family Storytelling

Rhyming makes remembering easier. People with no written language pass on information from person to person, generation to generation over many centuries. Think about how it might help to put homework facts to memorize or processes to remember into a rhyming form. Here’s one that will help for a lifetime, since everything that has threads (light bulbs, jar lids, screws, bolts, etc.) follows this rule: “Righty Tightly, Lefty Loosey.” Try it!

Now use the rhyme below to help you remember the process of building a grass house.

This is the House that They Built Grass House

This is the house that they built.

These are the plants on the prairie wide
That gave the people a place to reside,
For this is the house that they built.

This is the blueprint drawn from the past
That called for a home all made of grass,
Built with plants from the prairie wide
That gave the people a place to reside,
For this is the house that they built.

This is the circle drawn on the ground
That showed the builders where to cut down
To follow the blueprint drawn from the past
That called for a home all made of grass,
Built with plants from the prairie wide
That gave the people a place to reside,
For this is the house that they built.

These are the posts and these are the beams
Cut and set by the building team
Into the circle drawn on the ground
That showed the builders where to cut down
To follow the blueprint drawn from the past
That called for a home all made of grass,
Built with plants from the prairie wide
That gave the people a place to reside,
For this is the house that they built.

This is the frame of saplings straight
That bent to the center supporting the weight
Around the posts and around the beams
Cut and set by the building team
Into the circle drawn on the ground
That showed the builders where to cut down
To follow the blueprint drawn from the past
That called for a home all made of grass,
Built with plants from the prairie wide
That gave the people a place to reside,
For this is the house that they built.

These are the stringers tied on so tight
That formed the beehive strong and light
Attached to the frame of saplings straight
That bent to the center supporting the weight
Around the posts and around the beams
Cut and set by the building team
Into the circle drawn on the ground
That showed the builders where to cut down
To follow the blueprint drawn from the past
That called for a home all made of grass,
Built with plants from the prairie wide
That gave the people a place to reside,
For this is the house that they built.

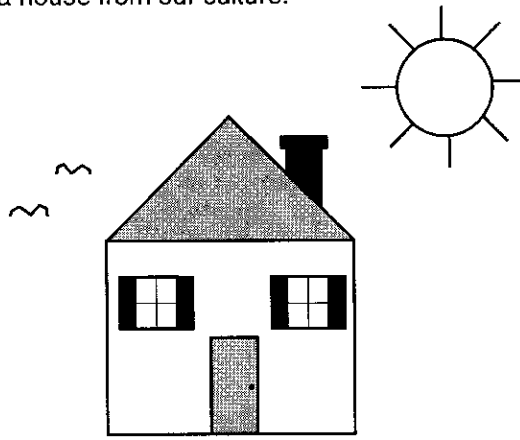
These are the bundles of tall prairie grass
That shingle the walls to make it last
Sewn to the stringers tied on so tight
That formed the beehive strong and light
Attached to the frame of saplings straight
That bent to the center supporting the weight
Around the posts and around the beams
Cut and set by the building team
Into the circle drawn on the ground
That showed the builders where to cut down
To follow the blueprint drawn from the past
That called for a home all made of grass,
Built with plants from the prairie wide
That gave the people a place to reside,
For this is the house that they built.

This is the needle made of bone
That stitches together A Place to Call Home
Covered with bundles of tall prairie grass
That shingle the walls to make it last
Sewn to the stringers tied on so tight
That formed the beehive strong and light
Attached to the frame of saplings straight
That bent to the center supporting the weight
Around the posts and around the beams
Cut and set by the building team
Into the circle drawn on the ground
That showed the builders where to cut down
To follow the blueprint drawn from the past
That called for a home all made of grass,
Built with plants from the prairie wide
That gave the people a place to reside,
For this is the house that they built.

Vocabulary. Draw a picture of a post and beam support system.

What material do the stringers on a grass house clamp together? _____

Our cultural blueprint gives us a general understanding of the shape of a house. Using the sketch below, label the familiar parts and materials of a house from our culture.



Family Storytelling. Write a rhyme about building an earthlodge, stone cabin, or your own house. Use the same form as the rhyme for building a grass house.

One new thing I notice about houses in my neighborhood: _____

Extra Credit. Make up actions to go with each verse of the rhyme about building a grass house.



Family Storytelling

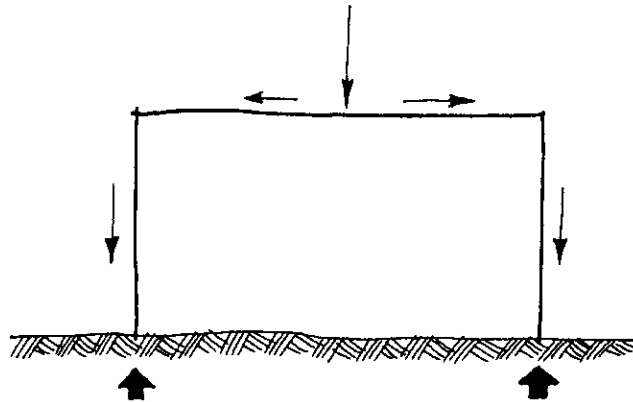
With the class, review the rhyme, which presents the process of building a grass house. This fits with the kinesthetic activity “This is the House that Jack and Jill Built” (see Projects on pages 167-168). Develop hand and body motions to go with each stanza. For example, with the line, “This is the blueprint drawn from the past,” participants could point to their heads, for this where a cultural blueprint resides.

Now together write a rhyme to document the process of building an earthlodge, stone cabin, tipi, log house, dugout, etc. Use as many architectural terms and other vocabulary as possible (beehive, rondavel, frame, etc.) Include gardens, crops, tools, etc. A tipi rhyme could include bison, hides, hunting, etc. Students will enjoy composing as it applies to the hay bale house that THEY built (see Projects on page 165).

Spanning the Space

A house is an enclosed space. Spanning the space involves two basic elements, one horizontal and the other vertical. Because the force of gravity is great, the horizontal spanning element must have tensile strength. The downward force from the horizontal span is received by the vertical element, which carries it down to the ground. The forces pushing up from the earth must equal those pushing down, or the structure will not stand.

The horizontal span is the roof. The vertical element is the walls. Using materials at hand, a vernacular building takes shape based on these two elements. Sometimes (as in a grass house), the elements are combined. The shape of a building can be traced to its spanning method. In vernacular architecture the structure’s support can be bent frame, post and beam, or trussed.



Flow of forces through a structural frame
(Rapoport 1969:116).

See Architecture section in each day of the unit for activity suggestions to demonstrate span and other architectural basics.

PROJECTS

Hay Bale House

Building a house of hay bales requires no tools, but it does take some planning. Gain permission to set aside an area of the schoolyard or playground. Locate a source of straw or hay bales. Try a feed store or garden/landscaping center, if you don't know a farmer. Maybe your County Extension Agent knows of a local organization that would be willing to donate the materials or fund their purchase. Perhaps the grounds keeper of the school has ordered straw for lawn or other landscaping use and would be willing to lend the bales to your class for this project.

Straw bales make lightweight building blocks, but prairie hay, though heavier, still smells and feels of the grassland. Brome would work, but alfalfa is too heavy.

Decide if the structure will have a roof. Bed sheets or sheets of plastic (or even plastic trash bags cut open along the sides and duct-taped together) will work. However, your budding architects will have to figure out how to hold the sagging roof up in the middle. Boards make an easy roof. CAUTION: Using boards tempts folks to walk around up there, and without a support structure beneath this could result in injuries! If boards seem to be the best idea, remove them when the class is not using the house.

Students can do preliminary planning, but the fun of building this kind of house is the creativity of the moment and the ease with which it can be built and rebuilt. Experiment with forms; try a polygon, etc. Use the bales to demonstrate how right angles at strategic points strengthen walls. Lay the bales both "bricklayer" style and stacked. Compare the strengths of each, and figure out why one is stronger than the other. Experiment with span, demonstrate stress, build a corbeled arch for the doorway (a corbeled arch "stair steps" as it rises, thereby gaining stability and strength from the walls). Decorate inside and out. Break a bale to scatter on the ground/pavement for insulation.

An excellent resource for students is Timothy Fisher's (1977) book, *Huts,hovels and Houses*. The book includes hay bale, sod, newspaper log, soda can, inflatable, and other types of houses. It also gives excellent instructions for how to build a windmill, tap into solar power, create a water system, etc.

Don't forget to hang a corn cob bird or two in the house. Can students agree on a name for the house? Talk about the differences between discussing and doing. The "doing" forms a connection with the materials, the site, and the other builders that is central in the vernacular tradition.

Corncob Birds

Modern researchers were shown a Wichita grass house under construction in Oklahoma. Inside they noticed "toy" birds suspended from the rafters. The birds had bodies made of corncobs and wings of wood. A builder explained that the birds had been placed there "to clear away the cobwebs" (Nabokov and Easton 1989:149).

Archeologists try to "clear away the cobwebs" to gain a clearer understanding of life long ago. Time has hidden or nearly destroyed the evidence left by ancient generations. Layers of soil, new buildings and roads, floods, fire, and earth's chemicals are "cobwebs" that archeologists must look beyond. As archeologists scientifically investigate past peoples, places, and objects, their work clears away some of the mystery about life long ago.

Corncob Birds

Materials

1. Corncob for each student or each team. Many feed, pet, and garden stores sell ears of corn as squirrel food. Kernels should be removed (thumbs work as well as anything). See below for related activities using corn kernels.
2. Craft or popsicle sticks, four per bird
3. Colored markers

4. Glue
5. String or cord for suspending each bird

Instructions

Teacher: 1. Using a sharp knife, make a slit through the cob to allow “wings” (sticks) to pass through.

Students or teams: 2. Decorate sticks with colored markers. Sticks are easily broken to shorter lengths if desired.

3. Push sticks through slit in cob and center them, so wings are of equal length on either side. Secure with glue if needed.

4. Wrap string or cord around cob to hang.

Suggestions: When suspending birds, concentrate them in the semicardinal directions, which have special meanings, associations, and powers for the Wichita and Pawnee. As each person/team presents at the Day Five celebration, create a “ritual” by using a yardstick or broom handle to gently create movement among the birds, signifying that the knowledge to be shared is an act of “clearing away the cobwebs.”

Related Activity: Shelling Corn

Whether with the hand, a stick, stone, or shell, removing the kernels from the cob was an act repeated countless times. Hand-powered shelling machines in the nineteenth century speeded up the process. Many generations of children helped to “shell” corn by hand. In preparation for the corncob bird project, have a relay race or other competition to remove the kernels from the cobs. Talk about the verb “to shell” and its connection to our past.

Related Activity: Taking a Closer Look

There will be plenty of kernels for other activities, including weighing, measuring, recording, sorting. Ask students to compile their figures and draw some conclusions. These steps are very much like the scientific processes used at an archeological site and later in a laboratory. If a microscope is available, cut some of the kernels to reveal the vertical and horizontal cross sections. Draw a kernel and indicate the various parts of the seed. Find out what kind of corn this is. To what uses would the kernels be put? The cob? Try grinding the corn into meal or parching it. Find out what makes popcorn pop. Will field corn pop? (See Day Two: Words and Music, Tall Tale on pages 193-194 for a story about popping corn.)

Related Activity: Whirlybird (Pellowski 1990:55)

Materials:

1. One corncob
2. Three feathers

Instructions:

1. Cut or break off the wide base of the cob, leaving 5 or 6 inches of cob.
2. Insert feathers into soft middle of the cob’s broken end at an angle and equidistant from one another.
3. Throw as high as possible in the air.
4. Adjust feathers or length as needed.

Prairie Roots

Native prairie plant communities are an evolved diversity of plants, including grasses and forbs (leafy nongrass plants) and cacti. On the tall-grass prairie, grasses include big bluestem, Indian grass, cordgrass, and many others. Forbs include sunflowers, yarrow, white sage, lamb’s quarters, prairie turnips, butterfly weed, milkweed, gayfeather, and many more. Three typical prairie flowers are white dog’s tooth violet (spring), prairie cone flower (summer), and asters (fall). A common cactus is the prickly pear.

As amazing as its diversity is, most of native prairie life is underground—the roots of big bluestem grass can reach lengths of 10-12 feet! Roots, rootlets, and microscopic root hairs increase the mass of each grass plant many times over. Rhizomes connect many of the plants, a

kind of cloning reproduction that makes a true related community. The fibrous mass of roots holds the soil as sod, a combination of soil and dead and living plant material.

Paper Prairie Plants and Root Systems

Materials

1. Reference books, brochures, plant identification guidebooks, etc.
2. Paper for plant stems, blades, leaves, seed heads, blossoms, buds
3. Brown paper or paper bags
4. String, thread, twine (various weights and thicknesses) for roots
5. Paper punch
6. Rulers, yardsticks

Instructions

1. Determine what season your paper prairie will represent.
2. Determine what plants to represent and in what proportions. Prairie is about 90 percent grasses.
3. Create the plants as they appear above ground. Measure accurately and consult the guidebooks. For example, big bluestem can grow as tall as 7 feet. Use the brown paper or bags as the foundation/topsoil. You will need to establish a ground line on the walls that accommodates the tallest plants.
4. Punch holes in appropriate places through which the twine and other fibers representing roots will be pulled.
5. For each kind of plant, measure the correct length of cordage to represent the root system. This means that many of the grasses' root systems will extend below the wall; they should be "puddled" on the floor at the base of the walls. They can be spread out over the floor during discussions of prairie ecosystems, etc.

Ask your librarian for help in securing books with photos or illustrations of prairie plants. Talk to the high school's vocational agriculture teacher for suggestions. Your County Extension Office may provide multiple copies of plant identification brochures, booklets, etc. Find out about the scientific names for prairie plants and how they fit into families. See Day Three: Families and Neighbors on pages 202-204 for information on the sunflower family of plants.

Related Activity: Promoting Kansas Products

Be a Kansas products booster and design a line of wrapping paper, wallpaper and border, clothing, linens, etc., depicting one or more prairie plants. Skip the sunflowers this time, for their popularity over the past couple of years has already been proven. For a different design idea refer to Day One: Words and Music, Myth on page 184 to learn about Demeter, who carries sheaves of wheat and poppies.

This Is the House that Jack and Jill Built (Center for Understanding the Built Environment 1992:25)

Write a new version of "This is the House that Jack Built" in which Jill is also represented. The partnership of women is accurate prehistorically and often in vernacular architecture of nineteenth-century Kansas. Keep in mind that as the class writes the piece, they will be acting it out. Decide whether they will use their bodies, create cardboard and other props, or both. The activity could be done in several teams, with one group describing step-by-step the building processes for grass, earth, and stone houses (or tipi, dugout, log house, etc.) Also as part of the piece (or separately as a warm-up), ask students to demonstrate with their classmates some architectural concepts, such as tension, compression, span, dome, post and beam, rondavel, etc. Many of the vocabulary words in this unit could be spelled, defined, used in context, AND physically demonstrated in this manner. Work with the physical education teacher to develop this activity. Try to demonstrate "weathering," "destruction by fire," and "chemical destruction." Show how a posthole pattern comes to be and then is covered and later investigated by archeologists. Some of these could be choreographed to music. Videotape the performance and present it on Day Five.

Draw the front of your house. How does it look different from the back door? From the neighbor's house front? Who uses the front and who uses the back? In rural areas the back door is often the busiest with the front door as decoration, for air circulation, escape route in case of fire, or just for company. Why would this be?

Draw the front porch, steps, doorway, entryway, trim, mailbox or slot, door mat or scraper, doorknobs/locks, colors, screen/storm door. Does your family name appear anywhere? How does this area change with the seasons (plants in summer, holiday decorations at Christmas, etc.)?

Related Activity: Poetry Playhouse

See Handout #4: The House that They Built pages 161-162 for a poem to act out.

Related Activity: Wreath

Materials

1. Inexpensive straw, foam, or vine wreaths from discount or craft stores. Or have students collect vines and make their own forms. Take a trip outdoors to gather dried materials for the wreaths.
2. Florist's wire, glue, ribbon, etc.

Instructions

Make a wreath for your house or for your room or even for your desk at school. The wreath should convey a message to the neighbors, such as "welcome," "holiday greetings," "this is who we are," or a theme, like "livelihood" or "what I like best." Very inexpensive wooden cutouts at craft stores range from airplanes to vegetables. Be sure to discuss the symbolic use of space, sense of place, community, cultural norm, etc. Talk about the range included in "norm." A community in Kansas recently exploded with controversy over the question, "What is Art?" Lawrence residents who considered broken umbrellas hanging from trees in an artist's yard "just plain junk" met with considerable resistance from others in the town, who hung umbrellas in their trees, too, in support of the original artist. Discuss what it means to be an individual in a group. What do humans gain by complying with the standards of their community? What do they lose? Is there a way to "have it all?"

Paper Cross-Stitch Sampler

Materials

1. Graph paper
2. Colored pencils or markers

Instructions

"Cross-stitch" using X's made with colored markers or pencils in place of thread. Use graph paper to make a "sampler," displaying the commonly stitched sentiment "HOME SWEET HOME." Students could depict different kinds of houses in addition to those used here (for example, dugout, tipi, log house).

Alternative Activity: Patchwork Quilt of Paper

Fabric quilts are wonderful class projects, but they can be time-consuming and expensive. How about a paper quilt, where the overall design is agreed upon, and students each create a block? Add paper borders and arrange the blocks in a quilt arrangement or display. Have students write a caption for each block, or let each student explain how the block is part of the overall theme.

For ☹The Poetry Haters☹

For those students who absolutely hate poetry, this unit's emphasis on insights from Kansas poetry will be torture. Demystify the poems, and give the students a chance to learn to understand and appreciate them. Create a tall tale, or make up a new twist to an existing story. Remember that the elements are larger than life, and there is humor throughout.

Understatement or overstatement is the tall tale's secret. To get them started, use this familiar form:

"In Kansas it's so dry ..."

"How dry is it?"

"Why, it's so dry in Kansas,"

Don't limit them to this type—a tall tale can be a dialogue but can also ramble along as a story. Tall tales are a kind of vernacular tradition, just as the prairie farmhouses in this unit are "for the people by the people."

Let them try this one. There is humor in this piece. Help ☺The Poetry Haters☺ enjoy it.

| | |
|---|----|
| ... There's no poetry in August when the sweat runs down your back, | 1 |
| And you feel the hot winds sizzle till they burn your whiskers black, | 2 |
| When it seems as if your pitchfork has been dipped in melted lead | 3 |
| And the threshing-engine chuckles to the red sun overhead, | 4 |
| And you flounder in the barges choked with flying chaff and dirt | 5 |
| While the wheat-beards grow familiar through your salt and soppy shirt. | 6 |
| Then you'd like to kill the poet who slops over at the mouth | 7 |
| When the gentle August zephyrs come hell-blazing from the south; | 8 |
| You would like to set him pumping when the windmill wheel is dead | 9 |
| And you have to furnish water for your thirsty hundred-head; | 10 |
| When you sluice your heaving porkers with cold water all day long | 11 |
| You could massacre the minstrel who would set the thing in song. | 12 |

Willard Wattles
(Leland 1978:65-66)

Design a cartoon of a farmer suffering all the miseries of Kansas in August as described in the piece. Compare a "gentle zephyr" and a hot wind from the south.

Acknowledge that not all people understand or appreciate the poetic form of literature. Approach Wattle's poem positively; it offers a chance to talk about archeology and other sciences. One of the keys to unlocking the meaning of a poem, a site, a personal situation, etc. is to understand the vocabulary. Specialists in any area of life have a common understanding/definition for objects, procedures, theories. Ask students to use one color to circle the threshing crew's technical terms (threshing-engine, barges, chaff, wheat-beards) and another color to identify other terms that constitute "farmer talk" (pitchfork, windmill wheel, pumping [as in hand-pumping from a well]). What are the "thirsty hundred-head?" What are "porkers," and why would someone "sluice" them with water? Sometimes readers don't understand why a poet chooses certain words and refuses to say something straightforwardly. Ask ☺The Poetry Haters☺ to read these two versions of the same line below, first silently and then aloud to one another, to hear and better understand what is being conveyed by the piece as poetry. Which gives the feel, taste, and sense of the way it feels?

While the wheat-beards grow familiar through your salt and soppy shirt
or While the beards of the wheat stick into your skin through your sweaty wet shirt

Compare these versions of another section of the poem.

You would like to kill the poet who slops over at the mouth
When the gentle August zephyrs come hell-blazing from the south
or You would like to kill the poet who would write about all this hot work as a poem about a lovely summer day in Kansas.

What might go wrong on a Kansas farm today? What does a nineteenth-century farmer have in common with a twentieth-century farmer? Was it hot harvesting corn from a garden plot along a river in a prehistoric August? What might have gone wrong? Write/talk about it. Prehistoric people laughed, too. Ask ☺The Poetry Haters☺ to write (in some form) about combining wheat in modern times with a broken air conditioner in the cab.

GETTING READY

Background

Strategies for Teaching this Unit

Who Will Teach?

Traditional Method: This is a week-long unit with an introductory lesson for use on the Friday before the week begins. Enlist the help of a librarian and art, music, and physical education teachers. Invite guest speakers (architect, historic preservationist, carpenter, farmer, archeologist, historian, botanist, artist, poet, musician, environmentalist, etc.). A speaker may be available from The Land Institute or the Kansas Rural Center. Avoid using a local "artifact collector" unless he/she is a member of the Kansas Anthropological Association or clearly adheres to a philosophy of preservation and stewardship (i.e., Do Not Dig!). Contact local news media for coverage of class activities.

Teams/Subject Areas Method: Students work as teams on one or more subject areas throughout the week, sharing information on the final day of the unit. The teacher gives the overview each day (Space, Time, Place, Home, and Heritage).

Kids Can Teach Method: The unit is extended over a two-week period. Students work as teams of two or three. They spend a week preparing a lesson from the choices in the study guide. During the following week they teach the unit's themes (Space, Time, Place, and Home) through lecture, vocabulary, demonstration/experiment, and worksheets. They prepare two questions for their themes to be used on a unit examination. Teacher guidance is critical if this approach is used.

What to Teach?

Choose any combination of topics to create your unit. Some suggestions follow.

| Emphasis | Topics to Use |
|-------------------|---|
| Archeology | Prairie Farmhouses, Archeology, Architecture, Context, Words and Music, Families and Neighbors, Quotation |
| Built environment | Prairie Farmhouses, Architecture, Context, Words and Music, Poetry |
| Environment | Prairie Farmhouses, Context, Words and Music, Poetry, Families and Neighbors |

Vocabulary

annual
aridity
artifact
context

culture
ecology
ecotype
forb

harrow
monoculture
perennial
polyculture

rhizome
seral plant
vernacular
yarrow

Topics



Prairie Farmhouses

The three houses featured in this unit (grass house, earthlodge, and stone cabin) are all examples of vernacular architecture. In each case, the "architect" was the designer, supplier, builder, and owner. None had a formal plan. The people who would live in the house helped build it. Local materials were used. Additions could be made without destroying the integrity of

the structure (as opposed to high-style architecture, in which building an addition often destroys the integrity of the style). These are the characteristics of vernacular architecture. Around the world and across the centuries, there are three basic shapes for a vernacular house: conical (beehive shape, i.e., grass house), domical (domed roof and low walls, i.e., earthlodge), and rectilinear (square or rectangular with high walls and carpenter's roof, i.e., stone cabin).



Archeology

Remains of dwellings can provide archeologists with a great deal of information. Although weather, fire, and other forces have destroyed much evidence, scientists can still learn from the remnants. Structural elements (posthole patterns, daub, fallen members of burned roofs, prepared floor surfaces, hearths, interior cache pits) provide information about preferred building locations and alignments, construction styles and techniques, modifications through time, uses of interior and surrounding exterior spaces. Materials used can indicate possible impacts on the environment. Substantial structures suggest that they were intended to be permanent and belonged to people with a settled lifestyle. By knowing a structure's size archeologists can estimate the number of occupants. A camp or village (habitation) site might provide population data for the whole group. Artifacts recovered give clues to the activities of the people who once lived there and their relationships to other groups.



Architecture

Prehistoric ancestors of the Wichita and Pawnee had building traditions in which all or nearly all of the adults could build a house. The tool kit (technology) of one was the tool kit of the others. Building materials were obtained in the same way by all members. There was little specialization, except by gender; rather, the building process involved families, other relatives, and the whole group for cultural reasons. This so-called "primitive" vernacular building tradition is present in nonliterate societies, where all share a common view of how a house should look.

Preindustrial vernacular buildings, such as the stone cabin and other nineteenth-century pioneer dwellings (log house, sod house, etc.), have much in common with "primitive" traditions. The basic technology was commonly held. Both the people who would live in the house and any tradespersons who were skilled or experienced in building worked side by side to build the structure. There were no formal architectural plans—just a common understanding of acceptable style.

Throughout the unit, compare vernacular architecture, songs, and stories. They are all "of the common people" rather than designed, built, written, told, or sung by specialists in a high or formal style.

Teachers should refer to the figure below throughout the unit when discussing architecture and emphasize cultural determinism. The shape a house takes, its placement on the land and in relation to other structures, its use of raw materials, etc. are all determined primarily by culture. See Rapoport (1969) for a lengthy discussion of how culture plays the main role, with environment and technology contributing to how a particular house form becomes the vernacular standard in a culture.

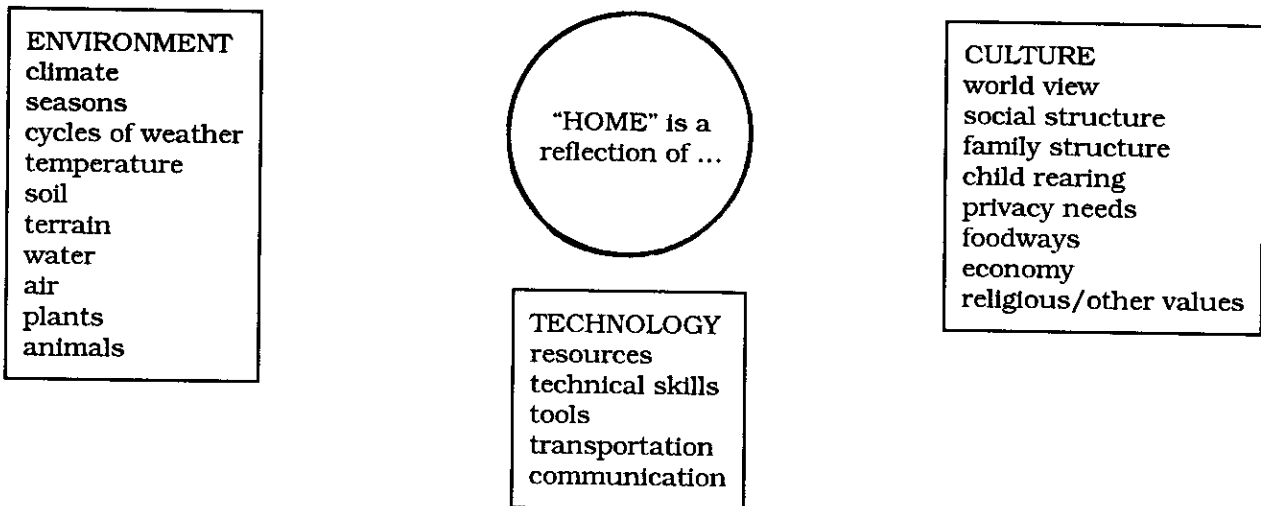
What form a house will take is determined first and foremost by the cultural blueprint—what the people envision as the ideal. Tradition plays a primary role in drawing up this mental plan. Perception of space (what is a place and what is not), family structure, belief system, and other cultural factors shape the collective idea of what a dwelling must be. Once equipped with the cultural blueprint, possibilities and modifying factors become important.

The environment encompasses climate, raw materials, and weathering. Air temperature, humidity, solar radiation, air movement, precipitation, and seasonal shifts are climatic factors. Environment also includes the effects of longer cycles of drought, heavier rainfall, and other conditions that can last for a century or more. In regard to raw materials economy of scarcity was often the case for new arrivals. For nineteenth-century homesteaders in Kansas, available

raw materials of the prairie were the reality, since sawmills, brick foundries, and other manufacturing centers to produce building materials and road systems and railroads to import or deliver processed materials were not yet established. For the American Indians the grassland offered building materials that suited the cultural ideal perfectly: the plants, animals, and soil. Their "delivery system" was their own muscle power and the use of dogs and, later, horses to carry loads on travois.

Technology consists of the tools and skills to build. Metal tools and building materials (such as nails and "feathers," wedges that allowed settlers to cut limestone to use as building blocks) were central to the technology of the nineteenth-century settlers in Kansas. Wichita, Pawnee, and other American Indian groups and their ancestors had stone and bone tools and a technology that used them to best advantage. The extensive use of cordage (made from animal and plant materials) literally tied a grass house together and bound the frame of an earthlodge, too.

Throughout the unit use the following diagram to determine to which category (in some cases categories) a word, phrase, or theme refers. For example, "Space" in Day One: Words and Music, Poetry on page 182 has elements of culture, environment, and technology. Ask students to identify which lines of the poem deal with culture (nothing, time, etc.), environment (grass, sky, etc.) and technology (fencing, hedge rows, etc.) elements. All the other poems, myths, etc. can be examined in the same way. The search is for how "home" is a reflection of culture, environment, and technology.



Context

For many thousands of years, the prairie looked much the same. Rainstorms, dry winds, fires, and blizzards swept over it. Along the small streams seedlings grew to saplings, and some survived to maturity—tall trees able to make seeds themselves. Prairie grasses put out new rhizomes, covering the gently rolling hills with a tough blanket of sod. Stone above and below the surface weathered slowly, surrounded by the busy lives of small creatures. Many generations of animals came and went. Bands of people seeking food arrived to hunt and gather. Later, gardening people cultivated the fertile soil along the waterways. Century after century, generation after generation, humans have used this land and its resources.

Mountains of grass were cut and bundled into thick thatch for grass walls or insulation. Trees along the waterways fell to become frames or firewood. Small garden plots and the large fields of recent years changed not only plant and animal life, but also rain water runoff and the sweep of scouring winds.

The land itself can speak to us of these changes. At a prehistoric village or an old farmstead, the laying of foundations, the stacking of stones, the building up and the digging down have left

marks upon the land. These messages are still legible, and their stories are part of the state's heritage.

Archeologists investigate these cultural resources. They arrange the story of humans in this place we call Kansas into chronological order.

| | |
|-------------------------|-------------------|
| Paleoindian Period | 11,000-7000 B.C. |
| Archaic Period | 7000 B.C.-A.D. 1 |
| Woodland Period | A.D. 1-1000 |
| Village Gardener Period | A.D. 1000-1500 |
| Protohistoric Period | A.D. 1500-1800 |
| Historic Period | A.D. 1800-present |

Words and Music

Poetry

The worksheet on page 196 can be used with poems throughout this unit.

Poetry was a popular writing form during the nineteenth and early twentieth centuries. The poems of Kansas writers reveal much about the place, the time, and the perceptions of people. People ABOVE Nature as the dominating force on the grasslands has changed over time to a new sensibility about Kansas. Poetry of the past 50 years reflects less human domination and a need to work with Nature. The environment was not yet a recognized science for those who believed agriculture and settlement brought about a garden where once there was only "desert." (To them any place without agriculture was a desert. They knew that Kansas was not a sand desert, as in Death Valley. The high distinction drawn between desert and garden was part of the belief in domination of people over Nature.) The early poems lament the aridity of the climate, the grasshoppers, floods, prairie fires, and other destructive forces (Nature). More recent poets have completely switched the perspective, acknowledging that humans are a part of the entire system. Ecological concerns give people the responsibility for damaging the grasslands; they also acknowledge that cycles of weather (drought patterns, for example) are a part of life on the prairies.

Thistle, Yarrow, and Clover

| | |
|----------------------------------|----|
| I cross a weedy meadow | 1 |
| casting my sunset shadow | 2 |
| on thistle, yarrow, clover: | 3 |
| I name them over and over. | 4 |
| I hear a bobwhite's whistle | 5 |
| in clover, yarrow, thistle, | 6 |
| and pass a rusty harrow | 7 |
| in thistle, clover, yarrow. | 8 |
| My twilight vision follows | 9 |
| the twisting flight of swallows, | 10 |
| the nighthawks swoop and hover | 11 |
| above the fields whose cover | 12 |
| is all a fading bristle | 13 |
| of yarrow, clover, thistle. | 14 |

| | |
|-------------------------------|----|
| My dimming sight shall narrow | 15 |
| on clover, thistle, yarrow: | 16 |
| thistle, yarrow, clover— | 17 |
| I name them over and over. | 18 |

Kenneth Wiggins Porter
(Averill 1982:49)

Activity: A Walking Song

Did you ever have a song or word stuck in your mind? This happens to poets, too. Take a walk and read the poem as you step. Feel the rhythm of the piece. Try to walk through plants rather than on pavement. Listen for the sounds you and the plants make.

Let the three plants named in the poem stand for broader concepts, for example, thistles—plant communities, diversity, ecotypes, plants as weeds; yarrow—food and medicinal uses for plants, plants used in construction of structure, clothing, etc.; clover—introduced crops, domestication of plants, imported plants, “monoculture” and “polyculture.”

Name the birds heard or seen. What object stands rusting (line 7)? Follow the growing darkness (lines 2, 9, and 15). The poet has given us a time of day, and those parts of the landscape he most notices. By naming the harrow, he gives us a clue—a diagnostic artifact that tells the reader that this is farm country.

Try using Porter’s form, substituting three other prairie plants or animals.

Take a closer look. What four lines break the pattern the poet has established (lines 9-12)? Archeology depends on noticing tiny details and overall patterns.

Myth

Myths and legends are part of every culture—ours, too! Myths from both Western and non-Western traditions are presented. Help students understand that our prescientific and current understanding of the world, language, literature, arts, and sciences are firmly rooted in Greek and Roman mythology. Red Bean Man, a mythological character in the heritage of the Wichita people (Day Two: Words and Music, Myth on page 193), helps the people by teaching them how to build grass houses. *Kawas*, the brown eagle of the Pawnee’s *Hako* Ceremony (Day Three: Words and Music, Song and Ceremony on page 202) is a messenger from the Creator whose participation in events brings blessings and health to the children of the earthlodges. Religious and mythological figures care for non-Western peoples, just as the Greek and Roman gods and their adventures teach Westerners.

Pomona and Vertumnis have represented the help needed by Western peoples in tending orchards and gardens. Pomona is the protector of orchards and gardens, and her partner Vertumnis is her helper. He has also been known as the god of the changing seasons and the god of developing vegetation. Their excellent skills and interests offered help with growing fruits and vegetables.

Words have their own histories, stretching far back in time. They have borrowed from one another extensively. The “trail” that the etymologist, who studies the origin and development of words, follows backward through time reveals interesting connections and stories that tell us about ourselves. Linguists study languages in the way that archeologists study sites.

Activity: Latin Derivations

What has the Roman goddess of the orchards to do with a cowboy’s saddle? Use the dictionary to find some words with Latin derivations. Look up the word “pommel.” Pomona’s name originates with “pome,” which then and now means a fleshy sweet fruit with a core that contains the seeds. Apples and pears are pomes. Check out the dictionary listings for some related words: pomegranate, pomander, pomade, pomace, pomology. For Vertumnis check out vert, verdigris, verdant, and verdure. This activity can be done with the vocabulary words or any words in this unit.

Tall Tale

A tradition on the Plains, brought by settlers and adapted to the grassland's environment, the tall tale is Kansas folklore. The main transmission of these stories was from person to person—tall tales told from one farmer to another and from one generation to another are part of an oral tradition. Published as tongue-in-cheek humor in newspapers and magazines, recorded by folklorists, but mostly swapped between farmers face-to-face, the tall tale is in some ways a distant cousin to mythology. Jokes use some of a tall tale's methods, such as over or understatement, silly situations, and punch lines.

Tall tales in Kansas are often coping strategy, with any situation exaggerated positively or negatively. Nineteenth-century drawings for magazines "back East" showed gigantic ears of corn and the ladders needed to pick them from the stalk; postcards advertised the same message of fertility. Huge grasshoppers and other creatures showed the opposite view of the farmers' problems.

Compared with the Kansas poetry in this unit, this folk-literature style is less serious in tone but not in underlying meaning. The possibility of hunger and failure lurks just beneath the surface of many of the stories. Tall tales reveal the importance of weather, the power of nature's forces, the courage and determination to succeed, and a wry or outrageous sense of humor distinctly rural in origin.

Activity: Tell a Tall Tale

Ask students to make up tall tales of their own. In the tradition of the form, suggest a choice of topics: drought, wind, harvest. How hot was it? How powerful was the wind? How big was the harvest? That a tall tale can be either an exaggeration of woe or good fortune is a good topic for discussion. What do tall tales reveal about pioneering? About humor? About human beings? Consider American Indian humorous stories. Do you think they told tall tales and funny stories?

Several good sources of tall tales about life on the Great Plains could provide a project for ©The Poetry Haters© (see Projects on pages 168-169). Two standard collections are Koch and Sackett (1961) and Wyatt (1963).

Folk Music

Music that develops out of the need to express common experience is vernacular, "of the people." With no formal composition or presentation, folk music gains popularity because it is usually about familiar situations. The tune is easy to remember, frequently borrowed from some popular song. It may express a wry humor. Since the majority of nineteenth-century settlers came to farm, common themes include weather, harvest, and other homesteading experiences.

Kansas pioneer folk music parallels tall tales in overstatement or understatement or echoes the sentimentality of the early pioneer poems. Ethnic and religious traditional songs add another dimension, connecting past and present for settlers needing continuity in a new home.

Song and Ceremony

American Indian poetry on the printed page leaves out some essential elements. This poetry was also song, prayer, and/or dance. "Words, melody and movements were as mixed as the water of a river and its own ripples and its own rate of flowing" (Cronyn 1962:xiv). The drama of the presentation when separated from the words loses a lot of information. Treat the material offered in this subtopic with respect. A poem for the Pawnee, for example, is often a personal song, belonging only to that person, who holds the right to sing it, dance it, or give it away. We can only know a little about the meaning of an American Indian piece, since it is out of context (personal, spatial, temporal, cultural). We can, however, catch a glimmer of the meaning, including senses of space, time, place, and home.

*** Families and Neighbors

Activity: Hey, Do the Math!

In a space 6 inches by 6 inches (half a square foot), the prairie supports as many as 8 species of plants. Using a ruler, draw a 6 x 6-inch square. Give this piece of prairie a name.

A square yard of big bluestem contains 25 miles of rootlets, root hairs, and roots. Using a yardstick, draw a 36 x 36-inch square. Talk about how to fit 25 miles times the number of feet in a mile into this space.

For each of the 4 or 5 grass species on the tall grass prairie, there are about 200 flowering plants, forbs, shrubs, and sedges. Using 5 as the number of grasses and 200 as the rest of the plant community, figure out the percentage of grass to the rest. Ratios, pie charts, and other opportunities for math activities abound throughout the unit.

In a prairie system perennial polyculture is the only way to go. Over the centuries of a prairie's growth, the way to success is to develop from monoculture to polyculture, to mature from annuals to perennials. The way a prairie survives through the stages of succession can be compared to human settlement of a place: first the pioneers and then the settlers.

1. Disturbance or disaster strikes (a glacier moving through or a drought lasting for centuries or too many animals grazing). The place has to start from scratch.

2. Recovery begins with the invasion of the "Pioneer Plants." Onto the disaster site fly plant seeds (mostly grass seeds), carried by the wind. Their job is to take root, flourish, and make more seeds FAST! That way there is hope for the next growing season, when the second generation seed will have a chance to succeed. The Pioneer Plants hold the soil left bare after a disaster, grow for a season, and then die, which makes them annuals. Their decaying materials help to build the soil. These Pioneer Plants focus all their energy on their seeds, where they store their power—carbohydrates. That's why humans like their seeds so much; we need carbo, and these plants provide them in megadoses. The Pioneer Plants are called "seral plants."

Unfortunately, seral plants only grow and make seed in a monoculture, where they are not competing with other kinds of plants.

3. Next comes the slow advance of the "Settler Plants," the perennials. They want to put all their power "in the bank," that is, in root systems. They are here for the long haul; they want to last forever. They grow slowly, dividing the sun, moisture, and nutrients in the atmosphere between growing UP (leaves, flowers, seeds) and growing DOWN (roots, rootlets, root hairs). They are like Power Rangers; they know when to fight and when to stand aside. They have discipline. Oh, so wise are these Settler Plants. They know that disaster can happen all over again. They want to survive if that happens. The Settler Plants find ways to live together that benefit every plant in the neighborhood. They depend on one another, just as people depend on their neighbors for borrowing a cup of sugar or sharing work at harvest time.

Plowing is an artificial (human-caused) disaster. Human beings ask of the land that it respond to this disaster by helping the seral plants, which are planted every year. (Wheat and corn are seral plants.) Agriculture is the human way of saying to the place: "Help! Help! Call 911! Grow up these plants as fast as possible or else all is lost!" Many seasons of calling 911 take their toll. The land never gets to recover through natural processes. Seral plants have to rely on chemical fertilizers for food so new seeds can form each year. The perennial Settler Plants are locked out. The idea of community, where everyone sacrifices something to benefit the group, dies. By plowing, we arrest the ability of the land to heal itself.

Over the past century and a half we have been dialing 911 each year. To survive, the soil and water are shouting for help. They are saying to us, "We'll do our best, but we can't keep up!" By the time today's school kids have children, the Ogallala Aquifer, the ancient deep water source that supplies the moisture for agriculture in dry western Kansas, will be gone. Rain that fell 3,000,000 years ago, when this region was much wetter, is being used at a rate of 4 feet per year. Only a half an inch is replaced each year. Hey, do the math! It will not last for another 30 years at this rate.

Kansas farmers (from prehistory until now) are not stupid. We will work together as families, as neighbors, as a state to preserve the land upon which we depend.

“” Quotation

Public Archeologist Virginia Wulfschle says, “Archeologists want to know everything about lifeways in the past: what people ate, how they dressed, what they believed, where they lived. We try to find the connections between cultures, to learn about common human experiences. To do all this, modern archeology depends on other sciences for important information about plants, animals, chemicals, architecture, geography, ecology, water, weather, and much more! We need artists, photographers, computer scientists, and lab specialists. We ask for help from trained amateurs (like members of the Kansas Anthropological Association). Today's archeologist is the leader of a team of experts, all working to discover more about the peoples of the past.”

DAY ONE: SPACE

Background

Space is perceived in many ways, but always within a cultural context. Since all humans are physically situated in relation to the planet (on it, in it, or above it), the concept of space is a good place to begin searching for the meaning of "A Place to Call Home."

Prehistoric peoples lived on the grassland for many centuries. Their success required a knowledge of the physical place: its cycles of drought, its plants and animals, its powers, its blessings, and its dangers. The scale of population and technology was accommodated well within the vast space. Use of local resources was not significant enough to threaten the environment as a whole. Understanding of the grasslands' "moods" was well-developed and at least as sophisticated as that of the settlers who came in the nineteenth century.

In the early part of the 1800s, the newly acquired Louisiana Territory (of which Kansas was a part) was seen as a convenient dumping ground for unwanted Indians north, south, and east of the Mississippi. Emigrant tribes were forced to settle here "forever," which came very soon afterward. Overland trade and travel to the West brought Americans through the territory with forts and soldiers to police the trails. By the mid-1800s the prairie land, once called a desert, was now seen as a great potential garden. Native people were forced to resettle south or were crowded farther west. Americans believed that agriculture was the great democracy-builder and that this land could best be put to use by farming it. In place of the polyculture of perennials, farmers brought a tradition of monoculture, growing crops such as corn and wheat as annuals on a much larger scale.

The realities of this environment were little understood scientifically. Traditional farming, as practiced with a metal plow, did not take into account the structure of the grassland ecosystem. Because land in production of crops was considered good, as much grass as possible was plowed under. Native peoples' low population and prairie lifeways, which exploited the environment on a much smaller scale, were replaced by denser populations and agricultural methods that accidentally almost destroyed the whole system.

Richard Manning (1995:141) explained grassland this way. Life in a place can be measured in biomass: the weight of life of a place. In a rain forest most of the weight is in the trunks of the trees. In grassland most of the weight is below the ground in the roots. In a square yard of big bluestem prairie, there are 25 miles of roots, rootlets, and root hairs. Drought, fire, blizzards, grazing animals, and other "disasters" above ground are tolerated; the prairie recovers. If the roots are destroyed, though, the prairie is doomed. Although there are four or five kinds of grass on a prairie, which make up about 90 percent of the mass, there are perhaps 200 species of broad-leafed flowering plants, forbs, shrubs, and sedges. The biodiversity of grassland is part of its survival strategy. Gardening plots along the waterways of prehistoric Kansas did not disrupt the matrix that is the larger grassland. Nineteenth-century agriculture brought with it the technology to change the ecosystem significantly. It also brought cattle, whose effect on the grass has been different than that of bison, the main grazers who once had a niche here.

Perception of the space we call Kansas, then, is very much a culturally driven understanding. Over the years, we, like the native peoples before us, have changed the place. The difference is in scale and intention. Pioneer farmers, like the rest of America, believed that Nature was a force to be subdued by humans in whatever ways needed. Here at the end of the twentieth century, we are reevaluating that belief.

Vocabulary

biodiversity
biomass
cartography

cultural blueprint
ecosystem
grid

latitude
longitude
semi-aridity

spatial context
tensile strength
topography

Worksheet

See page 187 and Words and Music, Poetry on page 182 for instructions.

Topics



Prairie Farmhouses

A plan for a house is guided by tradition. Builders use their collective idea of how a house should look. Culture dictates shape, materials, tools, placement, size, and meaning. On paper or in the mind, a “cultural blueprint” directs the workers’ efforts.

People build houses according to a pattern taught to them. Each culture provides a building tradition and a tool kit with which to execute the building plan. When people move to a new place, they take along more than food, clothing, and tools. They also carry with them a lifetime of ideas about how their new world should look. A million assumptions travel with the settlers, already influencing the shapes their new houses will take. As they pioneer, they build and rebuild the heritage that will guide new generations. Layer after layer of cultural influence presses on the minds of the builders as they choose a site and locate materials:

▲ Round or rectangular? Low-lying to hug the terrain or tall and stately to stretch heavenward? Smooth or rough? How many will live here? Who are they to one another? During what seasons will the house be occupied? Are animals allowed through the door? Where should supplies be stored? Who sleeps where?

A basic rule of pioneering in all cultures is “making do.” Each wave of new arrivals needed shelter. To survive, they had to adapt their imported ideas of “home” to fit the environment—weather, water, hills, and plains. For centuries Kansas settlers used the natural resources they found—timber, grass, sod, and stone. They felled trees to build frameworks. They cut building blocks of sod and used prairie grass for insulation. Some dug into the hillsides for shelter or packed the earth itself over their dwellings. Others made houses of native stone pried from ancient ocean floors. They built houses of all shapes and sizes across the countryside, choosing sites near water and firewood and suited to their traditions, but inevitably altered by the environment:

▲ What building materials are available? How can the water, soil, rocks, plants, and animals of the area be used to provide shelter? Snow and ice in winter? Parching winds in summer? Which trees yield the right timbers? Which grasses cure best? Will spring rains run off the roof or ruin it? How does the lay of the land itself provide a good site for building?

When the idea of “home” meets the reality of “house,” tradition meets innovation. Here on the Kansas prairies, humans have been joining ideas and realities for centuries. The houses they built before the days of sawmills, railroads, and highways were products of the blending of culture and necessity.



Archeology

Time has done much to hide the past. At a prehistoric site where people once lived, much now lies hidden. Often the site is below the surface of the soil, with little left of the houses but charred remains. Through the centuries, weather, fire, and the earth’s chemicals have destroyed many of the details. And no one is still alive who remembers the exact place and time. Archeologists study the bits of evidence that survive. They search for meaning among the artifacts and patterns the site reveals.

At a historical site archeologists can compare written history (letters, maps, etc.) with the site itself to learn more. Instead of general trends and long time spans, scientists can be more precise. They can examine surviving structures and artifacts to test ideas. They can even come to know about individuals who once lived at the site.

Architecture

When builders went in search of materials to use to make a house in the grassland, their choices were the raw resources they could find and adapt. Prairie people had a plentiful supply of fiber (grass). They had saplings and timber from the gallery forests that grew along the waterways. The sod (earth/fiber hybrid) was another source of building material. Limestone outcroppings became quarries for building blocks. Raw materials for prehistoric houses can be divided into the following three categories.

Earth

mud
adobe
stone

Organic

bark
bone
brush
fiber (grass)
hides
reeds
saplings
sinew
timbers

Hybrid

sod (earth and fiber)
adobe and timber
wattle-and-daub (mud and wood)

For activities during Days One through Four of the Architecture topic, assemble the following materials:

| | | | |
|------------------|----------------------|------------------------|-----------------------------|
| blanket or sheet | corrugated cardboard | Lincoln Logs | piece of lightweight fabric |
| broom handles | dominoes | paper | Tinkertoys |
| chairs | Legos | paper clips or pennies | umbrella |

Activity: Architectural Basics

Continue the study begun in Handout #4: The House that They Built on page 164. Experiment with spanning a space and the tensile strength required as the span increases. Use chairs for the walls and a blanket or sheet for the span. Help students see that the blanket is adequate as long as the spanning distance is short. However, with the chairs very close together, there is little or no space inside. The span is stable, but the purpose of the span (to enclose living space) is not met. Move the chairs apart. The blanket will begin to sag in the middle. Ask students to think about some solutions. You will use this same set up for Day Two: Architecture on pages 189-190.



Context

In the Land Ordinance of 1785, the United States adopted a system of dividing land called the Jeffersonian grid (based on the rectilinear cadastral survey). The grid begins with the lines of latitude and longitude, used by navigators at sea. These lines were divided and subdivided into squares, 6 miles by 6 miles (36 square miles each). These "townships" were further divided into "sections" (640 acres each). The section was divided by 4 into "quarter sections" (160 acres each). These also were quartered, yielding 40-acre plots of land.

The resulting grid was (and is) the way we parcel out land. Ownership of space was described in this system's terms (section, quarter section, etc.). During Jefferson's time two factors determined how much land could be claimed by a homesteader. One was a sort of mathematical logic that viewed the world as a place for people, with the assumption that Nature would cooperate. The other was that 160 acres of land was just the right amount a farmer needed to succeed. The democratic ideal, where no one owned too much or too little land, was to be created in the West by following "the rules" as understood by people who had no notion of ecosystems, aridity, etc. Nothing within the landscape (watershed, topography, differences in rainfall and soil conditions among tall-grass, mixed-grass, and short-grass prairies) was taken into account. The knowledge of the American Indians, who knew the realities of the environment, was not

considered. Across the land invisible lines were drawn with no accounting for topography, biomes, etc., reflecting the attitude of Humans ABOVE Nature rather than WITHIN Nature.

Look at a globe. Find the latitude and longitude lines. These form the basis for our system of land ownership. We have officially drawn imaginary lines upon the earth based first on these big distances, getting smaller and smaller with each division.

Today scientists often use a grid system to study grassland. Archeologists use a grid to carefully excavate a site. The system shows exactly where an artifact or feature is located. Of equal importance is the relationship between each discovery and those around it. How one piece relates to others often reveals vital information. This is the artifact's context.

Activity: It's a Round World ...

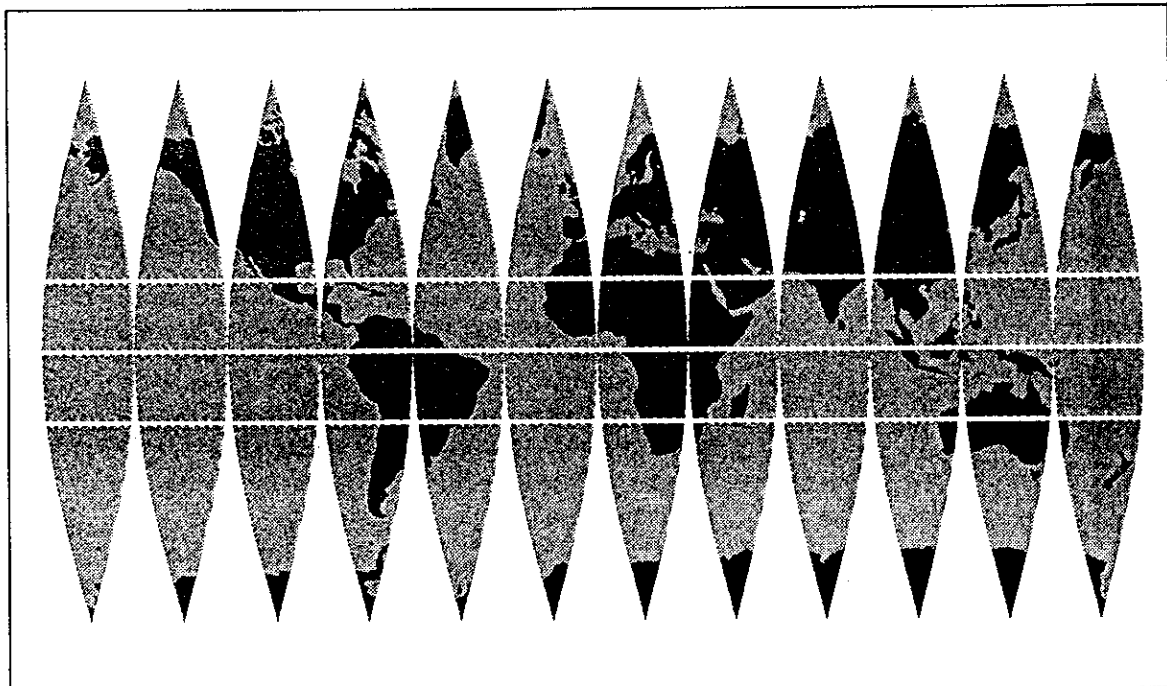
... but it's a flat map! Talk about cartography, navigation, topography, etc. Use the following demonstration to begin a discussion of how map makers deal with the problem (National Geographic Society 1996:8).

Materials

1. Two colored markers
2. Large grapefruit

Instructions

1. On the grapefruit draw lines of latitude (the tropics and the Equator) and longitude (the date line and the prime meridian), all in one color.
2. Use another color to indicate the continents.
3. Slice the grapefruit skin along one line of longitude from Pole to Pole. Carefully peel off the skin in one piece, making vertical cuts from tropics to poles as necessary, so the peel resembles the map below. Flatten the skin slowly on cardboard.
4. When the skin is flat, compare it with a world map and discuss the necessary adjustments.
5. Relate this cartographer's problem to the difficulties experienced by people whose cultural world views are different. The Pawnee, for example, lived in a world that included the dome of the sky, where Thunders, Clouds, Lightnings, and Winds lived. Although not measured in a Western sense, how does a domed perception of the earth accommodate features ignored by map makers from a literate society?



Words and Music

Poetry

Worksheet Instructions

See 187. Ownership of land means very different things to different cultures. What is a boundary to a nonliterate (no written language) culture? How would it be represented and understood? On the map find the “natural” and the “artificial” boundaries of our state and its counties. Compare the county borders of eastern Kansas with those of western Kansas. What do the differences tell you about how nineteenth-century immigrants settled the area? What were the perceptions of western Kansas, etc.? Take a look at the names of the counties, too. List some examples of place names that refer to the place, an American Indian name or group, a natural feature, famous or founding people. What do you think the native people thought of the notion that white settlers were “founding” a county or a state? See Song and Ceremony on page 185 for an American Indian poem about a different kind of “ownership.”

Consider how poet Elmer Suderman explains the wide spaces and how his nineteenth-century Mennonite ancestors' view of Kansas space changes with their activities.

Space

| | |
|-----------------------------------|----|
| The wide country was nothing | 1 |
| from horizon to horizon | 2 |
| Nothing except grass and sky | 3 |
| and clouds and rain and time | 4 |
| and monotony only the air filled | 5 |
| We could not see far | 6 |
| enough | 7 |
| to see the end of space or time. | 8 |
| Except on clear nights | 9 |
| we could not tell where north was | 10 |
| until we fenced the land | 11 |
| with olive orange, | 12 |
| hedge rows, that enclosed nothing | 13 |
| and nothing became something, | 14 |
| became land, our land, | 15 |
| ours to break the sod, and harrow | 16 |
| and plant and harvest | 17 |
| Turkey Red hard winter wheat. | 18 |

Elmer Suderman
(Leland 1978:121)

How does the poem express cultural ways of orienting in space (north-south-east-west, fences, land ownership based on grid system, etc.)?

In lines 3-5 the poem lists the “nothing” elements: grass, sky, clouds, rain, time, and monotony, air. Discuss these elements from the perspective of an ancestor of the Wichita or Pawnee. Some of these “nothings” are holy to them. One person’s (culture’s) “nothing” is another person’s (culture’s) “something.” How much is personal perception and how much is cultural? What other “nothings” can you list that were on the prairie before white settlement? Discuss encroachment of people, cultures, plants, ideas, etc.

Compare Turkey Red hard winter wheat and native grasses and spring wheat. Where is the “harvest” and by whom is the crop gathered? Why was winter wheat more suitable for Kansas farmers than spring wheat? How has replacing the polyculture of the prairies with the

monoculture of modern farming changed the environment? See *Getting Ready: Families and Neighbors* on page 176.

Learn about the size of a homestead. How did the Jeffersonian grid influence nineteenth-century settlement of Kansas? Can you still see its effects? Does your life center somewhere on the grid? Find the coordinates for your house/land.

The Land of the Crippled Snake

| | |
|--|----|
| The geographers have thrown a loop | 1 |
| north and south across the Great Plains, | 2 |
| a crippled snake— | 3 |
| tail at Lake Winnipeg, | 4 |
| crushed head near the mouth of the Rio Grande, | 5 |
| belly dragging | 6 |
| southwest across the Dakotas, Nebraska, Kansas, | 7 |
| south and southeast through Oklahoma, Texas, | 8 |
| by way of both Panhandles— | 9 |
| or maybe a length of discarded lariat, | 10 |
| dropped carelessly in the dust of a vast corral; | 11 |
| the geographers call it | 12 |
| “The Line of Semi-Aridity”— | 13 |
| Which means that east there’s usually enough rain for a crop | 14 |
| and west there usually isn’t. | 15 |
| But you can’t depend on either. | 16 |
| Let a thrill of awakening life | 17 |
| run through the snake’s broken body, | 18 |
| let someone twitch idly at the frayed rope-end— | 19 |
| and farms that were east are west— | 20 |
| a game of skip-the-rope | 21 |
| in which a stumble is ruin | 22 |

Kenneth Wiggins Porter
(Averill 1982:4)

Ask students to use the poem to draw on a United States map the “crippled snake.” What are the coordinates on the map/globe to which the poet refers?

Why does Porter use both the crippled snake and the rope to represent the line of semi-aridity? Follow lines 10 through to line 19 to find out. What if, instead of using the crippled snake, Porter had chosen some other metaphor? First discuss “metaphor,” and then try substituting another animal, changing other lines to fit the new metaphor. Do you think settlers would agree that the line of semi-aridity was a “snake”? Did its movements “bite” them? Is Porter’s understanding of history and geography positive, negative, or neutral?

Who might the “someone” in line 19 be, who may “twitch the rope”? Refer to the idea of “rain follows the plow” in *Day Four: Words and Music, Myth* on pages 211-212.

On which side of “the crippled snake” do you live? How does this affect life in your family? Neighborhood? County? Figure how many miles of our state lie on each side of the usual location of the line of semi-aridity.

The poet uses a modern view of North America, the United States, and Kansas. Try writing about the moving line from the perspective of a Village Gardener, who is just as aware of space and weather and timing for crops and survival but would not have the same maps as a geographer. What is a mental map? Whose map is better?

Myth

Demeter (Ceres in Latin) is the Greek goddess of agriculture. Although her name may not be familiar in the 1990s, Demeter stands for the way of life of the majority of people on the North American continent for the last 1,500 years. Demeter is an "old" goddess. The daughter of Rhea (the oldest goddess) and Cronus and sister of Zeus, Demeter represents the life-giving processes of securing food from the land. Fields and threshing floors were her realm. She is depicted as carrying sheaves of grain and poppies in her hands. Her chief festival was at harvest time, and the first loaf of bread baked from the new grain was hers. Later in Greek history a great nine-day festival was held each year in her honor, some of which was kept secret in the temple. The temple was at the little town of Eleusis near Athens, and the worship was called the Eleusian Mysteries.

Demeter's mate was Dionysis (Bacchus in Latin), god of the vines. Demeter's only daughter, Persephone (in Latin, Proserpine) was the maiden of spring. When Persephone was stolen by the god of the Underworld and kept there, Demeter sorrowed, and the result was no green signs of life anywhere (winter). At Zeus' bidding, Rhea made a deal with Demeter: four months of the year Persephone would live in the Underworld (die/winter). The rest of the year she could be with Demeter in the world (live/spring, summer, fall).

The Romans adopted the Greek gods and their personalities and histories but renamed them. Before they took on the Greek pantheon, the Romans had the Numina, under whose beneficent care the whole world proceeded: Pales, strengthener of cattle, Sylvanus, helper of plowmen and woodcutters, etc. There were many more, one for each aspect of human endeavor. Some had no earlier Greek counterpart, such as Pomona and Vertumnus, who were the Numina powers protecting orchards and gardens. Saturn, for example, was originally one of the Numina, protector of sowers and the seeds. In later days, Saturn was said to be the same as the Greek Cronus (Demeter's/Ceres' father).

Tall Tale

Weather is a recurring motif in Kansas tall tales. Because of aridity on the Great Plains, there are more tall tales about how dry it is than about any other subject. Here's one that was told during the Dust Bowl.

| | |
|--|---|
| ... A drop of water | 4 |
| hit a man and they had to throw | 5 |
| a bucket of dirt in his face to bring him to ... | 6 |

Kenneth Wiggins Porter
From "The Laying of the Ghosts"
(Averill 1982:20)

There are tall tales about Kansas fish that have never seen water. Here's one about frogs.

| | |
|---|----|
| "Say, Jim, you know, there's bullfrogs down my way— | 48 |
| full-grown ones, too—with calluses on their feet | 49 |
| from trampin' from creek to creek for water. | 50 |
| Them bullfrogs have me worried. | 51 |
| If it <i>should</i> rain they'd every one be drowned— | 52 |
| never havin' learned to swim. ..." | 53 |

Kenneth Wiggins Porter
From "The Ghosts of the Buffalo"
(Averill 1982:13)

Storms are another popular topic, especially tornadoes.

... the twisters also seemed to have a soft spot in their hearts for the poor pioneer farmer: one such tornado seized a plow left in a field and plowed a farm for a pioneer woman who had been recently widowed ... (Welsch 1972:25).

Whoever heard of a tornado that did a kindness or had any feeling for the plight of a human? This kind of story gives a powerful, frightening natural force a personality. Why would this help people cope? What other work might the tornado perform to help the widow?

Most tales have longer versions as collected by folklorists. Ask students to add to one of those given here.

Folk Music

Any of the activities suggested in Poetry can also be used with Kansas folk songs.

Little Old Sod Shanty on My Claim

I am looking rather seedy now while holding down my claim
And my vittles are not always of the best.
The mice play round me shyly as I nestle down to bed
In the little old sod shanty on my claim.

chorus: Oh, the hinges are of leather and the windows have no glass
And the boarded roof lets the howling blizzard in,
And I hear the hungry coyote as he slinks up through the grass,
In my little old sod shanty on my claim.

Yet I rather like the novelty of living in this way,
Though my bill of fare is always rather tame.
But I'm happy as a clam on the land of Uncle Sam
In my little old sod shanty on my claim.

Traditional Song
(Bellamy 1992)

Song and Ceremony

This Pawnee poem can be the springboard for a comparison with Suderman's poem "Space" (see Poetry on page 182), considering land ownership, cultural perception of space, different ways of perceiving the prairies, etc. How does this song conform to the idea that indigenous people did not have a sense of ownership of the land?

| | |
|--|---|
| Yonder they are coming. | 1 |
| Although strange misfortunes have befallen me, | 2 |
| yet it is mine, this country mine. | 3 |

Pawnee
(Cronyn 1962:351)

How does this conform with the idea that indigenous people did not have a sense of "ownership" of the land?

*** Families and Neighbors

Reconstructing a prairie is not simply replanting a piece of ground with prairie plants. Putting a prairie together again is like trying to put a puzzle together when some of the pieces are lost and others belong to an entirely different puzzle! Scientists have learned a secret of the grasslands. Native plants are so smart, they have developed into ecotypes. An ecotype is a specific plant that grows well in a specific place, while its very close relative (with almost identical genes) wilts and dies. Plants have “grown up” to very specific local situations. (Local can mean a few thousand miles, a few miles, or a few feet.) What works in one locality will not succeed in a spot just a little distance away. It’s like one neighbor who cheers for the Wildcats and another who roots for the Jayhawks. Wildcat-country folks will never be happy next to Jayhawk fans. Well, plants feel that way, too.

The process of putting together an accurate picture of the puzzle that is grassland will take computer technology and the commitment of countless people. It is a challenge for scientists and farmers in the twenty-first century to get the pieces of the puzzle back together again. Plant biologists face many of the same problems as archeologists. What once was can never be put back together again in precisely the same way.

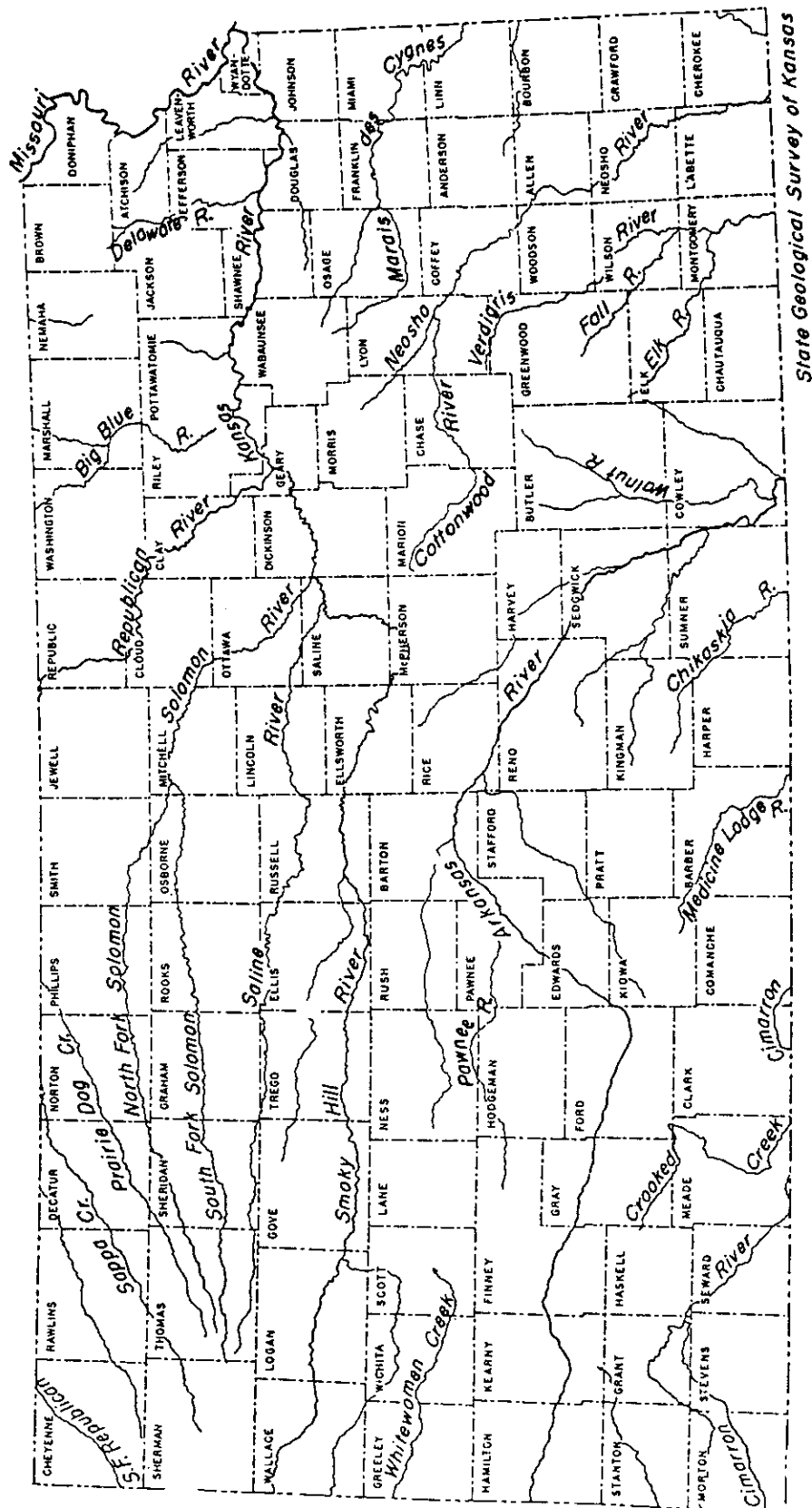
Activity: “Home” for Plants

Adapt the figure from Getting Ready: Architecture on page 172 to read, “‘HOME’ for Plants is a reflection of” Remember that the culture of a plant is inherited. Manning (1995:250) says, “Seeds pass on the legacy of learned relationships.” Passing on learned relationships is one of the definitions of human culture. Remember to include adaptive behaviors and immunities. These are the ways a local strain (an ecotype) learns how to survive and how it protects the coming generations.

“” Quotation

State Archeologist John Reynolds says, “Houses, whether Wichita grass lodges or modern condominiums, fulfill human needs, wants, and preferences for shelter, privacy, protection, and storage. In a very real sense, houses reflect the cultural beliefs and values of a people. We might contrast our own cultural emphasis on rugged individualism and individual isolated sleeping rooms with the communal living spaces and group solidarity of the Pawnee and Wichita people. For many American Indians, privacy is a state of mind rather than a matter of walls and doors.”

Worksheet: Kansas Map



DAY TWO: TIME

Background

"A Place to Call Home" for any individual or group exists within a temporal context. To help students gain an understanding of temporal context for the span of time covered by the cultural sequence of Kansas, use the Spanish Entrada of 1541. It marks the beginning of protohistory, the time during which both written documentation and archeological evidence are used. The moment in history when a literate culture (such as the Spanish) meets a nonliterate culture (such as the Wichita people) is a major event. Written records from that time forward provide a temporal context, a way of perceiving time in relationship to other events.

In 1541 Coronado led a small party of explorers into Kansas. They were looking for a land called Quivira, where there was reported to be much gold. In the journals and reports of those Spaniards are the first recorded mention of the grass-house Village Gardeners. The explorers called the people they met "Quivirans" (the Wichita) and described their houses made of grass. Accounts are heavily influenced by the culture of the writers, so we meet the people from the perspective of the Spanish conquistadors.

One of Coronado's soldiers described the land as fertile and said of the houses of the Quivirans, "... the houses are round, without a wall The roofs are of straw." Another Spaniard, Juan de Oñate, wrote, "The cornstalks were as tall as those of New Spain [Mexico] and in some places even taller. The land was so fertile ... many beans and some calabashes [gourds] and plum trees between the fields" (Richmond 1974:14).

Vocabulary

cordage
Coronado
entrada

haft
history
league

prehistory
protohistory
scapula

sinew
temporal context
time line

Worksheet

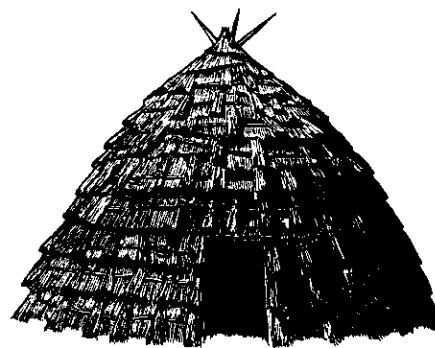
See page 196 and Words and Music, Poetry on page 191 for instructions.

Topics

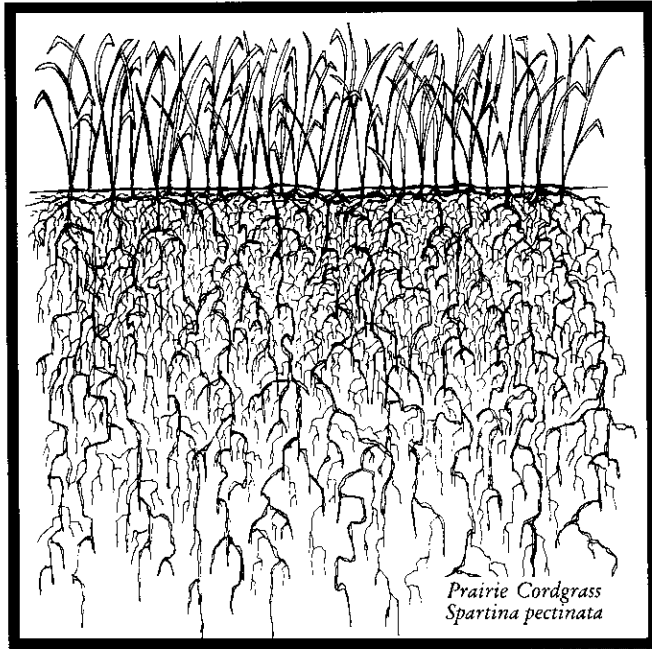


Prairie Farmhouses

"Home" for the Wichita people reflected their intimate connection with the prairie. Nourished and sheltered by the grassland's products, the Wichita built domed grass houses that seemed a continuation of the rolling landscape. For at least two centuries (from A.D. 1500 to 1700), the Wichita lived in the central region of the place we now call Kansas. They were called Quivirans by Spanish explorers, beginning with Coronado in A.D. 1541. The grass house people were both hunter-gatherers and gardeners. For most of the year, they lived in villages of 1,000 to 2,000 people. In their nearby fields they grew corn, beans, squash, and pumpkins. The annual bison hunt called for tipis, dog travois, and the excitement of traveling. On the move or at home in the village, the Wichita relied on the prairie ecosystem. Attuned to the waxing and waning of the moon, in harmony with the seasonal rhythm of all growing things, Wichita families surrounded themselves in the comforting embrace of houses cloaked in grass.



The Wichita people and their ancestors before them used the resources of the prairie to build houses. Thick bundles of grass could be attached to a wooden wickerwork frame, secured with plant cordage. Beehive or domed, grass house size ranged from 10 to 30 feet in diameter and about 12 feet at the peak. With stone and bone tools, families and neighbors collected and prepared wood and grass. They made cordage with which to "sew" the grass bundles to the house frame. Extended families of 10 or more people called the house "home." A grass house lasted 15 to 20 years with watchful upkeep. During those years a household required much firewood, causing a significant impact on the surrounding area.



Grass is the bounty of the prairies. Beneath the heartland's wide skies, the nutrient-rich soil supports plants short and tall. Home to unique animals, prairie systems have produced specialized plants that have evolved to cope with periods of drought and fire and the wear and tear of grazing herds. Deep roots up to 12 feet long store moisture and food to assure survival during hard times above ground. The bluestems and other prairie grasses clone themselves through hardy rhizomes or cast their seeds near and far to produce the next generation. Both the blades and the thick mat of roots in the soil could be cut to use as building materials.

Bright green with new growth in spring, the prairie cures to tones of russet and gold over the seasons. A closer look reveals shades of lavender and crimson. Taking a closer look is second nature to an archeologist.



Archeology

When the Archeology Team arrives to study a site where people once lived in grass houses, all is quiet except the wind blowing through the prairie grasses and a meadowlark calling to her mate. Not a sound remains of the big village that once stood here: no barking of dogs, no singing children, no scrape of bone hoes in the gardens, no click of stones struck by a toolmaker, no snap and crackle of cooking fires. The voices of the people are gone and so are their dwellings. But archeologists are trained to take a closer look, using scientific methods. They refer to the grass house people here in Kansas as the Great Bend Aspect and the Wichita.



Architecture

In architectural terms a grass house is of beehive shape, tensile support, and bent-frame structural type. (The wikiup and wigwam are also bent-frame types.) The strength of the frame comes from the bent wood, tied together to form an upside-down basket shape, wider at the bottom than at the top. The Wichita and their ancestors had a technology that literally tied their structures together. The cordage they used for different purposes in building a grass house was made of animal material (bison rawhide and sinew) and plant material (inner bark of elm or other trees).

A characteristic of vernacular building is a tool kit and technology common to all. For the prehistoric builders on the grasslands, tools were of bone or stone. Sharp instruments, such as axes and knives, could have "hafts" or handles of wood. The stone used for cutting tools was

commonly chert, a general type of rock that includes flint. (The Flint Hills of Kansas might more accurately be called the Chert Hills.) Some bone tools were hafted, too. Scapula hoes were made from the shoulder blades of bison, secured to wooden handles with sinew. Hammerstones were of quartzite or other dense stone that resisted shattering. Stone and bone tools could be used with some raw materials; other materials required tools of metal.

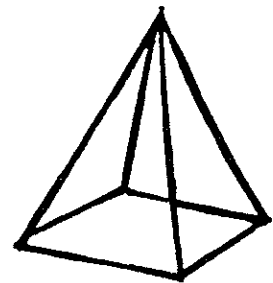
Activity: Bent Frame

Using Day One's arrangement of blanket and chairs, ask students if they have come up with solutions for the sagging roof problem. A broom handle is a one-dimensional solution to the problem and will support the span in the middle until the chairs are moved even farther apart. This central post solution could be extended in a line down the middle of a structure to allow for a bigger building. This works fine, but the central posts are taking up too much of the interior space. Ask students to track the stress down to the floor in a central post structure.

Introduce the umbrella as a way to solve the problem. Help students understand that radial roof supports span more space with less loss of usable area. A grass house frame works somewhat like a big umbrella, with the radials carrying the weight down to the ground. Because the floor of the structure is often slightly dug down into the ground, the force not only travels down to the ground but also outward across the ground.

The Wichita and their ancestors (and the Pawnee as well) lived only part of each year in their village houses. While on bison hunts, they used portable skin houses called tipis. Before they acquired horses, the people moved their goods on travois, pulled by dogs. With horses, the size of the tipis increased greatly. Discuss with students the commonly held but incorrect idea that prehistoric and historic American Indians mostly lived in tipis. See Nabokov and Easton (1989) for excellent illustrations of the structures built by American Indians.

Although a tipi may seem to be the simplest of the structures used by American Indians, architecturally it is classified as a combination space frame and tensile membrane structure. The poles make it a space frame, and the hide covering is the tensile membrane, adding strength of its own. A tipi is also an example of a compression structural system, because the poles are not bent (as in a grass house) and because the weight of the tensile membrane (the hide cover) is carried down the poles to the ground. Since the poles are tied at the top into a rigid joint, the stress is pulled together at the tie and then distributed down each of the poles. (Rectilinear structures are compression style, too. A tipi and a stone cabin have more in common than meets the eye!) Talk to students about how sometimes a thing is not as simple as it seems.



Space frame.

Discuss the similarities between the village house of the Wichita (grass house) and the hunting house (tipi). An interior liner in the tipi kept out cold drafts by creating a pocket of air; thick layers of grass tied like shingles over the wooden frame insulated the grass house. What materials do we use for insulation today?

Activity: Tipi

Demonstrate the structure of a tipi (in part) by using broom handles as poles and a blanket wrapped around the outside of them. An even easier way to demonstrate is to use Tinkertoys and a small piece of lightweight fabric. The tipi is a space frame tensile structure. Ask students to explain "space frame" and "tensile."



Context

Activity: Time Line

Create a time line by hanging a length of clothesline across the long side of the classroom. Divide the line into prehistory, protohistory, and history. Use slips of paper and clothespins to attach significant information to the appropriate section as the unit progresses. For example, the

Coronado Entrada of 1541 marks the beginning of protohistory. Point out when the ancestors of the Wichita were living in grass houses in central and southeastern Kansas, when the ancestors of the Pawnee were living in earthlodges in northern Kansas, when the stone cabin on the Martin farm was built, etc. Throughout the unit show the progression from prehistory through protohistory through history to the present, and have students place topics or events in temporal context on the classroom time line.

Make a time line to compare the life time of a butterfly, a frog, a snake, a prairie dog, a coyote, a bison, a human, an annual plant, a perennial plant, and a prairie.

Activity: Explorer's Map

Using the map from Day One on page 187, ask students to track the route Coronado and his men took through Kansas. In April 1541 the Spaniards traveled north from the Grand Canyon area, where they had wintered. Traveling onto the High Plains (west Texas and Oklahoma panhandle beyond the 100th meridian), they entered Kansas about where Liberal is today. They crossed the Arkansas River near present-day Dodge City on June 29 then turned northeast. On July 2 the Europeans encountered the first of the "Quivirans." They went on past Pawnee Rock and the great bend of the Arkansas River, down river to the vicinity of present-day Lyons. They traveled another 25 leagues (a league is slightly more than 2½ miles), crossed the Smoky Hill River, and went about as far as present-day Lindsborg.

Discuss natural landmarks, rivers, and other features of the landscape. With no commonly understood place names, measurements in leagues and details of terrain are the only descriptions given. Imprecise entries such as "three days' journey" also lead to confusion. How does the worldwide system of latitude and longitude benefit everyone?

Words and Music

Poetry

Worksheet Instructions

See page 196. Use "Out of the Dreaming Dust" below or any of the poetry in this unit. Ask students to list each item in the poem and classify it as a natural feature, human-made feature, or artifact. Lines 2 and 3 describe artifacts, such as those located, recorded, bagged, catalogued, analyzed, tested, and preserved by archeologists. Lines 6 through 8 describe features—the shell, the depression, the salt lick. These are natural features, the way Kansas was without human influence. What about the human-caused features in lines 7 and 8? Do the two (natural and human trails, for example) ever coincide? Influence one another? Change the environment? The Archeology Team documents a feature, since it cannot be bagged and moved to a laboratory, through description, measurements, maps, photography, soil samples, etc.

Record on the worksheet observations about each object or feature, which could include material, size/dimensions, shape, color, texture, hardness, age, etc. Archeologists describe all these attributes and more when they analyze data from a site.

| | |
|--|---|
| An ocean shell in bas-relief on stone, | 1 |
| A rusted link from Spanish coat-of-mail, | 2 |
| An arrow-head of flint, a red-man's bone | 3 |
| Are fragments of the legendary tale | 4 |
| Told by the Kansas hills. Here one may find | 5 |
| Depressions stamped by hooves of buffalo | 6 |
| Around a salt lick. Here the faint trails wind | 7 |
| Where wagon wheels rolled westward long ago. ... | 8 |

Lora D. Reiter
From "Out of the Dreaming Dust"
(Leland 1978:106)

Note that in 1961, when this poem was written, "red-man" was still an acceptable poetic way of referring to American Indians, at least according to most white Americans. Talk about alternative words and why names are powerful. Discuss ways people group one another today.

Find out about laws that protect human burials. (See page 84 in Unit Two.) What are the legal and the ethical responsibilities that archeologists and their institutions assume? Burials include all people: those buried on battlefields and at forts, along trails, in family plots on farms, and in larger cemeteries, too. Discuss the responsibilities involved in studying any site.

Poetry allows us to dig for meaning by taking a closer look from the poet's perspective. Approach poetry with the same skills that an archeologist uses: keep an open mind, learn as much as possible, take a second or third look at information, interpret it by knowing the contexts. Encourage students to do some "dirtless digging" with the poetry in this unit, rather than tearing into the ground with trowels. The discipline it takes to interpret poetry (or art or any other human activity) is good practice for future archeologists.

Refer to line 5. Discuss other words that might describe how the land talks to us, as expressed in literature and as interpreted by scientists. Are the "stories" they tell at odds with one another? Was the Dust Bowl's devastation a "communication" from the grasslands to the croplands? Do we need more than one way of understanding and studying the past? Can the past ever be known completely?

Using the cultural sequence, place each line in its temporal context. (The shell will be FAR before the cultural sequence begins.)

Use "For Farmers" to discuss how two very different cultures view themselves and one another. Help students understand the deeper meanings of the poem. Who are the farmers? Why is Coronado a "man of metal?"

For Farmers

| | |
|-----------------------------------|--------|
| Surrounded by broken | 1 |
| pots and arrowheads | 2 |
| I walk the space where | 3 |
| earth dome houses stood. | 4 |
| The Kingdom of Quivira | 5 |
| neolithic farmers | 6 |
| tattooed arms beneath the stars | 7 |
| and a sight named Coronado | 8 |
| winding through the smoky hills | 9 |
| in a dazzle of crosses | 10 |
| and weapons on animals | 11 |
| with stone hard feet. | 12 |
| Gold squash and pumpkins shudder. | 13 |
| The man of metal speaks | 14 |
| of seven cities made of gold | 15 |
| streets and temples | 16 |
| gold clothing and shoes | 17 |
| coffins plates the very | 18 |
| gutters made of gold. | 19 |
| The farmers stare | 20 |
| off at the sky | 21 |
| a high-pitched blue above | 22 |
| where wind and stone remain. | 23 |

| | |
|------------------------|----|
| "We hear you stranger. | 24 |
| Sit down | 25 |
| drink eat. | 26 |
| That which you | 27 |
| desire is just | 28 |
| a little further on." | 29 |

Harley Elliott
(Elliott 1981:76)

Lines 1-4 may be confusing. In them Elliott is giving his position, referring to the place where the Quivirans said their relatives to the north lived in earth houses. Some visitors from Harahey arrived while Coronado was with the Quivirans. It is generally accepted that the explorers did not go north to the Pawnee villages.

Identify some of the cultural artifacts of the Spaniards. What kind of animals did the Spanish ride (lines 11-12)? What does "stone hard feet" mean? What are some of the Wichita cultural indicators? Why do the vegetables shudder (line 13)? Are they gold for a reason?

Poets sometimes leave out punctuation marks and break sentences into different lines. Read the poem aloud, and add punctuation marks to clarify the meaning.

Myth

Instructions from Red Bean Man on building a grass house

During his visits to the Wichita in the 1920s, Edward S. Curtis collected this text on the sacred origins of the grass house:

... in the future the homes for all the people will be as this house which the spirit told me how to build; for they are good, and in them the tribe will have good health. First, the women will make the ground ready; they will cut away the sod on the chosen space and make smooth the surface with the pure earth. In shape it will be round like the sun. The men will go to the forest and cut many short cedar posts with crotches at the top. Of these, four of the best will be planted in the ground, in the shape of a square, beginning at the east. All of these posts must be made fine and smooth, or the spirits will say our work is not good. When the four posts of the house are secured in position, then you will set up others about them that the form of the house may be round. In the crotches you will lay other fine cedar timbers, against which will rest all outer timbers. Next you will divide the workers into four parties, the leader of each taking his men to one point of the land; the first to the south, the next to the west, then one to the north and one to the east. Each party will cut and prepare a fine long cedar. These four from the four winds are the strength of the house. They are like the chiefs who hold up the tribe. Before these men and their leaders go out to look for the fine cedars, they will pray to Kinnekasus that their work may be good; that the cedars which they find may give the house great strength, and that through the strength of the house the people may prosper ... (Nabokov and Easton 1989:146).

Tall Tale

Tall tales help people through their difficulties. They also give a county, state, or region some pride, which is a mark of ownership. The tall tale, then, as we tell it in Kansas, is a tradition that serves us when we need it. If it is going to be hot in Kansas, it had just as well be corn-poppin' hot. And if the weather changes fast elsewhere, why, in Kansas it changes even faster.

... we had some very hot weather, which we have most every year in Kansas. A farmer was driving a yoke of cattle, and-uh they became wearied on account of the heat, an' he

found that he would have to do something—give them some water. This story represents the sudden changes that take place in Kansas, occasionally.

He rushed over to the well to get a bucket of water for his ox an' by the time he got to the wagon, his other ox had died with the heat, and-uh he looked around to his bucket, an' the weather had changed—the wind had changed to the north and his bucket was solid ice (Koch and Sackett 1961:9-10).

In another story, "A farmer was plowing corn with a team of mules. It got so hot the corn began popping. The mules thought it was snow, so they froze to death" (Welsch 1972:31). Ask students to embellish the story about the field corn popping. Finish this sentence: The farmer went for a shovel to bury the mules, but the Kansas weather changed so fast that when he came back

Folk Music

When I First Came to This Land

When I first came to this land,
I was not a wealthy man.
So I got myself a shack
And I did what I could,
And I called my shack "Break My Back"
But the land was sweet and good,
And I did what I could.

When I first came to this land,
I was not a wealthy man.
So I got myself a duck
And I did what I could,
And I called my duck "Out of Luck"
And I called my shack "Break My Back"
But the land was sweet and good,
And I did what I could.

Continue adding verses: ...got myself a wife ... "Run For Your Life"
 ...got myself a son ... "My Work's Done"

Traditional Song
(Bellamy 1992)

Think of some more verses. Remember that this is a "complaint" song in which part of the humor is in the line "But the land was sweet and good." What can a folk song reveal about a group's relationship with the land?

Homestead housing is often referred to as "a shack." Find out what the Homestead Act required in regard to the size and quality of a dwelling. What kinds of "shacks" did homesteaders build?

Song and Ceremony

Red Bean Man told the Wichita ancestors what kind of house to build and how to do it. With the frame ready for thatching, a crew leader climbed a notched log ladder to the peak where four of the bent ribs stretched out to honor the Four Directions. Then he uttered a prayer, which Red Bean Man had taught them.

Kinnikasuk, this is your house.
It is good, I am thanking you for it.
Guide us and help us in all things done in it.
This house is your work;
Let me tie these poles well
That the people may have health and happiness.
Look upon us, that this work be blessed.

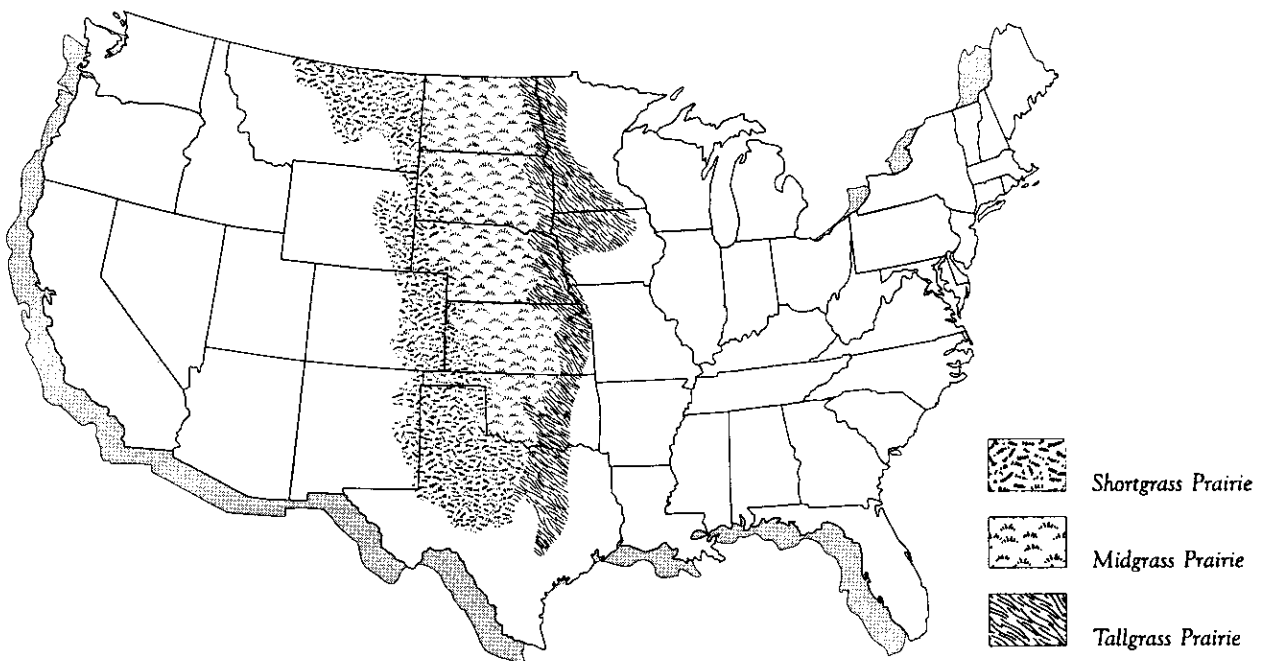
Wichita House Building Prayer
(Nabokov and Easton 1989:147)

*** Families and Neighbors

Just as plants in a prairie community depend on one another, country people rely on neighbors to borrow a cup of sugar or piece of machinery. Repairing fence lines, putting up hay, and other farm work brought neighboring families together. The shared work of cooking for harvest crews, preserving garden produce, sewing, and child care gave farm women opportunities for sharing ethnic traditions. Prairie fires and other disasters required the resources of men, women, and children. Talk about the concept that a neighborhood is greater than the sum of its parts.

“” Quotation

Journalist Richard Manning (1995:3), who often writes about environmental subjects, says, “The tall grass was just what the name said, species that grew taller than a horse, such as big bluestem and Indian grass. Virtually all of it is gone, plowed under by European settlers who now raise corn, which is nothing more than a domesticated tall grass. The remaining examples of prairie exist mostly in yard-size swatches maintained as curiosities—botanical zoos”



Approximate extent of shortgrass, midgrass, and tallgrass prairies in the United States prior to 1850 (Cushman and Jones 1988).

Worksheet: Features and Artifacts

Poem _____

Author _____

| Item | Line Number | Type | Description |
|------|----------------|------|-------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Key for Type

Natural Feature = NF
Human-Made Feature = HF
Artifact = A

DAY THREE: PLACE

Background

To experience a place as home is to feel sense of place. Sense of place is the total experience of a place: plants, animals, water, stone, topography, weather, seasons, sounds, sights, smells, tastes, community, built environment. It is the texture of a place as large as a continent or as small as a family room. It is as long as a lifetime or as fleeting as a minute.

Where spatial and temporal context come together is where a sense of place begins. Sense of place is culturally defined and both individually and collectively experienced. When a place is experienced collectively (pioneers in Kansas after the Civil War, for example), common themes emerge: the difficulties of frontier life, the concerns among agricultural people about rainfall, hail, and other weather, the experience of living in a new place, etc. Poetry, literature, tall tales, myths, folk music, and many other elements are reflections of the way people are experiencing a specific place at a specific time.

Activity: *Sense of Place*

Give students spatial and temporal specifics and ask them to describe the experience. For example, Grandma's house on Thanksgiving Day should evoke some responses. The uniqueness of that place at that time is a sense of place. For this unit sense of place can be just that specific or a much broader expression of the Kansas experience. It can be part language ("crick" for "creek"), part sound (killdeer returning in the spring), part smell (a hay field after a rain), part weather (the softness of a May morning), part familiar skyline, part family.

The poetry in this unit reveals sense of place as it is for the poets. Help students express their own sense of place.

Vocabulary

boosterism

built environment

earthlodge

rondavel

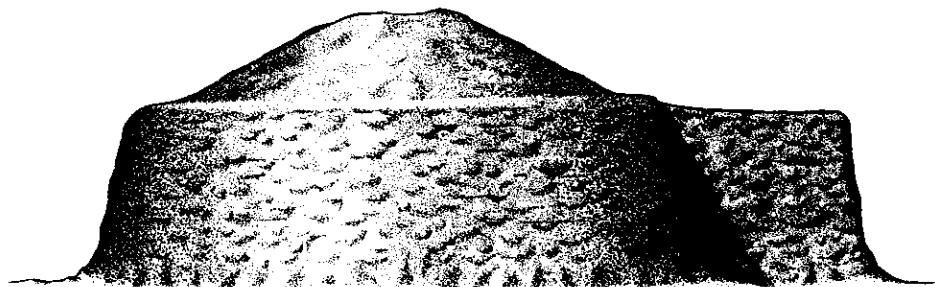
Worksheet

See page 205. Draw sketches of the grasses listed in the first column. Identify each as native or domesticated by checking two of the next four boxes. Research the relative heights of these plants. Figure height ratios. What are the scientific family names for some prairie grasses? Corn, wheat, rice?

Topics



Prairie Farmhouses



The Pawnee people created the safety and comforts of "home" by drawing the earth itself up and over and around them. Their building tradition lasted almost a thousand years here in Kansas.

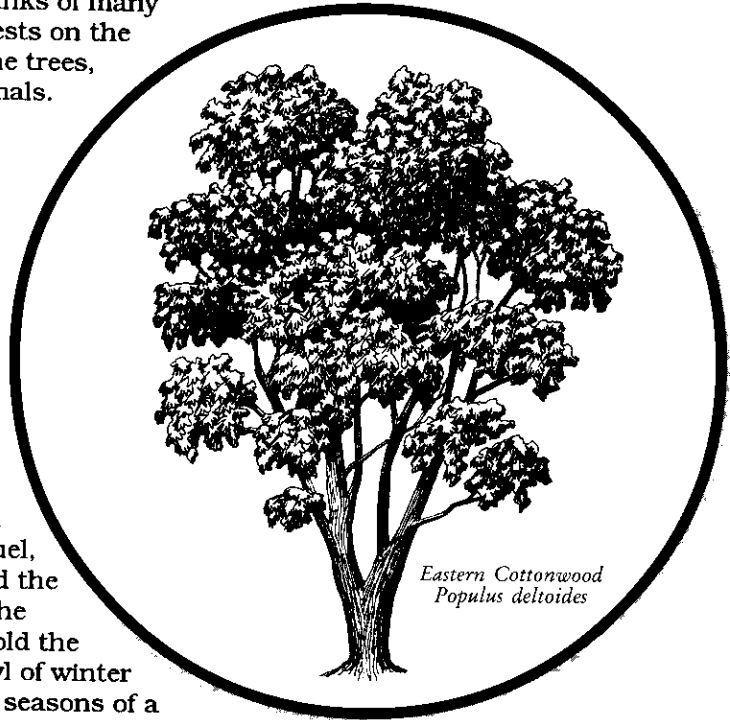
A house insulated with earth makes good sense in a land with wide ranges of seasonal weather.

A finished earthlodge with its domed roof resembled a small hill. Building a house with a diameter of 20 to 50 feet required at least 2 years of preparation. Construction made heavy demands on both the community and the surrounding environment. Men located and felled large trees (usually cottonwoods) for support posts and many smaller trees to form the massive

framework. Women prepared the wood and set aside rawhide from the seasonal bison hunts to use as cordage to bind the materials together. They grew extra crops to feed all the volunteers. Prairie grass had to be harvested and cured to cover the rafters before the earth layer. Sod blocks had to be cut and laid up like bricks to form the thick walls.

Shrubs, vines, and trees line the banks of many Kansas waterways, creating gallery forests on the prairie. Here, where the grass meets the trees, lives another system of plants and animals. Near a water source some saplings can survive, growing eventually into trees suitable for house building. Mature cottonwoods and other trees provided the timbers needed for the central supports of grass, earth, and stone dwellings. Smaller trees became part of the framework, walls, and roofs. Prehistoric peoples used tree bark to make cordage and for medicines and dyes.

New leaves rustling and creeks rushing were welcome sounds of spring for prairie people. Wooded areas meant survival—important sources of water, fuel, and building materials. Summer slowed the streams; frogs sang along the banks. The whisper of autumn's falling leaves foretold the silence of ice-locked waterways and howl of winter winds. Archeologists must listen to the seasons of a place to know it.



Archeology

When the Archeology Team arrives to study a site where people once lived in earthlodges, the remains of the busy village sleep below a pasture's surface. Ancient gardens lie hidden on a flood plain beneath layers of soil and crops of a modern Kansas farmer. The wind blows through the tall corn, and cicadas drone in the trees near the river, but no human voices or village sounds remain. No horses whickering to one another, no thumping of wooden mortars as the women grind corn into meal. No running feet as children race, no grandma's lullaby for a sleepy baby. But the Archeology Team is trained to discover the echo of a people's past through the evidence they left behind. Archeologists refer to the gardening peoples who built earth-covered houses as the Central Plains Tradition and the Pawnee.



Architecture

An earthlodge is a big building project! The span on some houses was 50 feet. An earthlodge is built as a rondavel: a round floor plan with low walls and a conical roof. The earthlodge needs post and beam support as well as tensile strength in the radials to carry the extreme weight of the roof. The roof carries some of the weight down the radials to the sod block walls and on down to the ground. The post and beam system in the center carries the weight of the roof, too, channeling it through the beams and down the posts to the ground. The Y-shaped posts are natural notches with "grown in" strength; they require less cutting and chopping with stone axes to create a finished joint. A tool kit of stone and bone tools makes a builder aware of the natural qualities of materials.

The longhouse is another American Indian dwelling of the post and beam structural type.

Activity: Post and Beam

Use the blanket as the roof of a post and beam structure. Some students will hold the edges to provide tension. Under the blanket four students stand in the center in a square configuration, hands on one another's shoulders to simulate post and beam construction. The center students connect via hands on shoulders to students, who bridge the gap between the center and edges of the blanket (walls), representing the radials that channel stress from the roof to the walls. The radial students' hands should connect with the students representing the walls. Books or other heavy materials can represent the heavy covering of grass and then earth that forms the earthlodge exterior roof. When these are added to the blanket, the roof should support the additional weight.



Context

Geographical coordinates on a map give spatial context. A date on a letter gives temporal context. The artifacts of a culture also provide context.

Archeologists study the relationship between artifacts and the people who made them. Artifacts help us understand human behavior. They can give clues to what people did and how they lived. For example, a hoe blade of bison bone found in an archeological site implies gardening, even though no gardens still show. Crop clues can be found in charred kernels of corn in a storage pit, even though no corn fields remain. Because the hoe blade is made from bison bone, hunting can be implied, too.

Artifacts can show us how people moved across the land, what activities happened at a place, where raw materials were gathered, how people altered natural materials, etc. Sometimes artifacts can provide information about religious beliefs, family structure, or social organization.

A diagnostic artifact is one that pinpoints a culture at a specific time and place. Archeologists pay close attention to pottery and projectile points. These types of artifacts change from culture to culture and through time. Spatial, temporal, and cultural contexts are important to the science of archeology.



Words and Music

Poetry

We Have No Words for the Spirit of the Place

| | |
|------------------------------------|----|
| Pull down old roses. | 1 |
| Pry loose the trellis. | 2 |
| Knock down the starched | 3 |
| petticoat of a porch | 4 |
| this house wears to darken | 5 |
| and cool its windows. Strip | 6 |
| the blistered siding, break in | 7 |
| to beams, studs. Inside, | 8 |
| the square-nalled homesteads | 9 |
| wear these additions like | 10 |
| dry icing. Break in where | 11 |
| accumulations disguise the house | 12 |
| in the guts of this place. | 13 |
| The straight oak, dry as a sermon, | 14 |
| scored by the knowing hands, | 15 |
| is the place to begin. | 16 |

Steven Hind
(Hind 1980:67)

Use this Kansas poem with Day Four: *Prairie Farmhouses* on pages 206-207. The original structure, built in 1885, was a small stone cabin of limestone. The two-story frame addition and wrap-around porch were added in 1903. Ask students to identify on the Martin farmhouse what the poet describes as “dry icing” (line 11). Why did he choose this description?

Look at houses in your neighborhood. Identify some with additions. What would the structure look like without “the petticoat of the porch” and its other “newer clothes?” Why does Hind write of the house “wearing” additions? What are the indicators in the poem (the diagnostic artifacts in archeology) that the original structure has been reached?

In the poem the roses and trellis are hiding the original “place.” Cultivated plants and flowers are good markers even when a house is gone. How would plant clues (pollen, seeds, cobs, and other plant material) help an archeologist?

What “sense of place” does the poem seek? What does it find? What words might describe “the spirit of the place?”

Myth

Although mythological stories often involve a god or goddess who falls in love with a mortal, in this story it is the other way around. Clytie, a beautiful young woman, fell in love with the Sun. Although he did not return her affection, still she sat outdoors all day every day, watching him. The gods took pity on the woman, and Clytie became the Sunflower, said to face the Sun all day long with her lovely flower-face (Hamilton 1942:291).

Our state flower’s familiar brown and yellow face appears everywhere as a symbol of Kansas. Hills of sunflowers divided the blue corn from the white, the spotted corn from the solid, etc. in Pawnee gardens. Coronado’s men noted that the Wichita gardens contained sunflowers, too. The tasty seeds were an oil-rich food, and the stalks were handy fuel for hot, quick fires at harvest time, when part of the corn crop was roasted or boiled in the gardens.

The sunflower belongs to the plant family *Asteraceae*. Scientific names for plants and animals are given in Latin, allowing people from all over the world to communicate without confusion about the plant/animal in question. Greek and Roman civilizations have given us much more than mythology—we have inherited much of their ways of organizing the world. See *Families and Neighbors* on pages 203-204 for a chart of information about *Asteraceae*, the sunflower family.

Tall Tale

Tall tales depend on overstatement or understatement. These two examples claim the scale of everything in Kansas is gigantic. This is part boosterism and part coping. It is about a sense of humor in the face of ruined crops. It could also send the message that coming to Kansas was a very smart move.

About the year the Kansas Pacific [Railroad] started building west, the sunflowers grew so high and thick that they were cut up and used as firewood. One farmer, whose entire corn crop was shaded out by them, made a small fortune sawing up sunflower stalks for railroad ties.

This farmer also built a log barn out of the sunflower stalks and kept his cow in it. The cow would wander away, so one night he tied her to a sunflower stalk. Next morning she was gone. He looked for her quite a while until he heard her bawl from up in the sky. Then he perceived that the sunflower stalk had grown during the night so that the cow hung by her halter forty feet in the air. And he had to chop the stalk down before he could milk that morning (Koch and Sackett 1961:19-20).

Koch and Sackett (1961:17-18) collected this tale from the Coolidge, Kansas, *Border Ruffian* of July 10, 1886.

There is no doubt ... that Missouri is a great country, but it will not compare for a moment with Kansas.

Think of the Kansas pumpkins! Gentlemen, when I was on a farm in that glorious country I once lost three valuable cows. For three weeks I searched for them in vain and was returning home in disgust when I suddenly heard the tinkle of a cowbell.

Investigation showed that the cows were inside of a pumpkin, eating calmly and enjoying their commodious quarters. How did they get in, you say? Well, the pumpkin vines grew rapidly there, and dragged a pumpkin over the rough ground until a hole was worn in the side, through which the cows entered. I afterwards had it cured and used it for a wagon shed.

Is it good country for corn, you ask? Stranger, you'll never know what a corn country is until you go to Kansas.

When the husking is done in the fall the men go out with mallets and wedges and split up the cornstalks for shipment to the East as telegraph poles or saw them off in lengths to be used as car wheels.

When the men are husking they carry along stepladders, which they place near the cornstalk. Two men then climb up and cut off the ears with a crosscut saw, letting them fall to the ground. Four horses are then hitched to each ear, and it is dragged to the crib.

Big farms there? I should say so. Why, when I started one spring to plow a furrow the entire length of the farm, I had a boy follow me to plant the corn, and when I got to the end of the furrow and started for home, I found that the corn the boy had planted was ripe, so I just husked my way home and got there just in time to spend New Year's.

Activity: Giant Fruit/Vegetable Building

Design a building made from one of Kansas' giant-sized fruits or vegetables. A whole loaf of bread could be baked from one kernel of wheat, or so the story goes. That means a carrot grows as big as a ranch house. Ask students to give their houses names, just as people did until the last few decades (Nine Pines, Maple Hill Farm, Meadow Farm, etc.). How does naming a place change it? How does naming a place change the way people feel about it? One farmer, whose grandparents lived at "Colman's Retreat," named his nearby farm "Namloc Acres." Can you figure out why?

In preparation for the Tall Tale preposterous postcard activity (see Day Five: Words and Music, Tall Tale on page 217), choose some designs that students have created and duplicate them on card stock on a color copy machine, if possible. Don't forget to buy stamps.

Folk Music

Kansas Land
(To the tune of "Beulah Land" or "O Tannenbaum")

I've reached the land of corn and beans,
At first the crop looked fine and green,
But the grasshoppers and the drought—
We'd better pull up and go south.

chorus: Oh, Kansas sun, hot Kansas sun,
As to the highest knoll I run,
I look away across the plains,
And wonder why it never rains.
And as I look upon my corn,
I think but little of my farm.

My hoss is poor; I cannot plow,
 But I can trade it for a cow.
 My wheat is thin, but let it pass,
 The cow can feed on buffalo grass.

Traditional Song
 (Koch and Sackett 1961:143-144)

Song and Ceremony

Kawas, the brown eagle, played a main role in the *Hako* Ceremony of the Pawnee. Ancient in origin, the event lasted for several days. The health and well-being of the children was assured by the *Hako*. Eagles and other birds served as messengers between the people and the Supreme Being, *Tirawa*. The birds carried prayers and returned with answers. *Tahirussawichi*, an old and revered man who had earned the title *Kurahus*, had much knowledge of traditions and experience in conducting ceremonies. He told Alice Fletcher, an ethnographer from the Smithsonian Institution, about the *Hako*. He explained the meaning of the decorated wooden stems used in the ceremony. Through the days of the *Hako*, the *Kurahus* carried the first of the feathered stems made for that event, "painted blue to represent the sky."

This stem was the first one painted and decorated, because it is female and the leader. It represents the night, the moon, the north, and stands for kindness and helpfulness. It will take care of the people. It is the mother (Cronyn 1962:256).

The segment of the *Hako* below has been adapted here by substituting contemporary for archaic verb forms (for example, "enters" instead of "entereth"). Note that "pinions" are wings.

| | |
|---|---|
| I | |
| Kawas, bearing new life, enters this dwelling, | 1 |
| Comes as to her own nest, on her spread pinions; | 2 |
| There so gently she hovers over these her Children. | 3 |
| II | |
| Kawas, bearing new life, flies through this dwelling, | 4 |
| All the lodge she cleanses, with her wings sweeping, | 5 |
| Making clear the place, sweeping out the harm and danger. | 6 |

Pawnee
 (Cronyn 1962:277)

Refer to Projects: Corncob Birds on pages 165-166 for some discussion of connections.

*** Families and Neighbors

Naming the wild native sunflower to represent Kansas in 1903 was a wise decision, for this family of plants grows across the state and includes some surprising members. *Asteraceae* have supplied food and medicine for prairie people for thousands of years. Ethnobotany is the study of plants and people and the human-plant connections of cultures. Paleobotanists study prehistoric plants. Paleoethnobotanists study prehistoric plants and their relationship with people. Many believe sunflowers (and other plants such as lamb's quarters) grow over such vast areas today because the seeds were distributed due to native peoples' use as food.

Use the sunflower family chart on pages 203-204. Check some of the Latin names in the dictionary for meaning and to discover derivations. Find out what these plant relatives look like. Draw a little sketch of each one in flower. Do they look alike?

| Asteraceae | Scientific Name | Medicinal Uses | Food Uses | Notes |
|----------------------|--------------------------------------|--|--|--|
| Sunflower | <i>Helianthus annuus</i> L. | Special medicine for pregnant women (Pawnee) | Seeds raw, boiled, roasted for cakes, dough, flour, meal | Sunflower has both annual and perennial forms. Pawnee name is <i>Kirik-tara-kata</i> , meaning yellow eyes. |
| Yarrow | <i>Achillea millefolium</i> | Coughs, throat irritations, pain reliever, cauterization (American Indian); also a folk medicine | | Yarrow is a perennial. <i>Achillea</i> refers to Greek hero Achilles, who used yarrow to heal a soldier's wounds. |
| Ragweed | <i>Ambrosia artemisiifolia</i> | Tea for swelling, diarrhea, vomiting, nausea, colds, sores (American Indian) | | Ragweed was used as medicine for horses. |
| White Sage | <i>Artemisia ludoviciana</i> Nutt. | Purification of soil by smoke (American Indian) | Leaves for ceremonial tea; seeds raw, dried, or pounded | White sage is an annual. Pawnee name is <i>kiwaut</i> . <i>Ludoviciana</i> refers to Louisiana Territory. In some Indian tribes, men and women had to use different kinds of white sage. |
| Aster | <i>Aster</i> | Earache, nosebleed (American Indian); cauterizing agent (Pawnee); eruptive skin problems, aromatic, epileptic spasms, hysterics (folk medicine, 1830); flower for expectorant for croup (scientific) | | Aster is a perennial. |
| Curly-topped Gumweed | <i>Grindelia squarrosa</i> | | Young leaves for tea and gum | Gumweed is a biennial. Pawnee name is <i>baskittits</i> , meaning sticky head. |
| Horseweed | <i>Conyza canadensis</i> (L.) Cronq. | Sweat baths, bowel problems (American Indian); astringent, expectorant, diarrhea, dropsy, chronic bronchitis, after childbirth (Anglo); stimulant, diuretic (scientific) | | |

| | | | | |
|---------------------|-------------------------------------|---|--|---|
| Pussy-toes | <i>Antennaria microphylla</i> Rydb. | After childbirth, rattlesnake bite, cough, fever, bruises (American Indian); liver inflammation, astringent (folk medicine); diarrhea, dysentery, tonic (Anglo); expectorant (scientific) | | Pussy-toes is a perennial. It was used as chewing gum and tobacco by American Indians. |
| Gayfeather | <i>Liatris punctata</i> Hook. | | | Gayfeather is a drought-resistant perennial herb. It is one of the "ancient foods" for the Kiowa. The Osage harvested it in August with corn, squash, and wild plums. |
| Marsh Elder | <i>Iva annua</i> | | Seeds (achenes) roasted or cooked; leaves in spring as cooked greens | |
| Cup Plant | <i>Silphium perfoliatum</i> L. | Morning sickness, smoke treatment, colds, rheumatism (American Indian) | Young leaves as greens | |
| Goldenrod | <i>Solidago</i> sp. | Kidney trouble (American Indian) | Seeds, young leaves as greens | Goldenrod is a perennial. |
| Jerusalem Artichoke | <i>Helianthus tuberosus</i> | | Roots raw or cooked; roots raw (Pawnee) | |
| Wavy-leafed Thistle | <i>Cirsium undulatum</i> | Styptic, contraceptive, tea from roots for burns and sores, tea from blossoms for diabetes (American Indian); diuretic, astringent, tonic (folk medicine) | Leaves in spring, stalks in May and June | |
| Plains Coreopsis | <i>Coreopsis tinctoria</i> Nutt. | Tops dried for medicinal tea (American Indian); expectorant and alterative (Anglo) | Boiled flowers for beverage that turns red in water | Coreopsis is an annual. |

“” Quotation

Plant ecologist Kelly Kindscher (1972:7) says, "There were both medicine men and medicine women in the Plains Indian tribes As part of their healing ceremonies, they used ritual, songs, drumming, prayer, and medicinal plants."

Worksheet: Grasses

| Grass | Native | Domesticated | Human Food | Animal Food | Height Above Ground |
|------------------------------|--------|--------------|------------|-------------|---------------------|
| Prairie Grass | | | | | |
| Corn (<i>Zea mays</i>) | | | | | |
| Wheat (<i>Triticum</i>) | | | | | |
| Rice (<i>Oryza sativa</i>) | | | | | |

DAY FOUR: HOME

Background

"Home" can mean a certain house, a range of space, a state of mind. A place to call "home" can change over time or stay forever the same in memory. The traditions of our culture serve as guidelines, teaching us lessons about what is "yours" and what is "mine." Traditions also teach us what forms a house can take. When the house that is "mine" gives me the security of being at the center of my world, the house has become my "home."

Vocabulary

farmstead

indigenous

loam

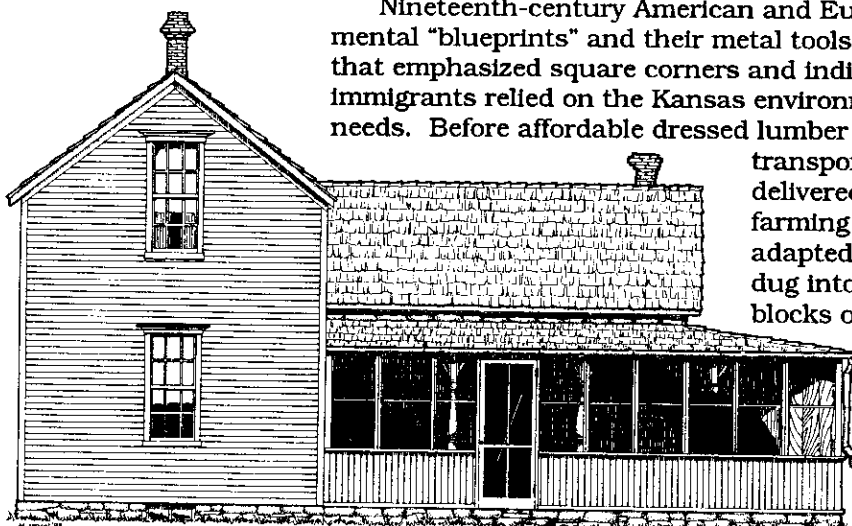
Worksheet

See page 215. Students will obtain information (date, site number, etc.) from the floor plan and draw architectural symbols (window, door, etc.) in the key.

Topics



Prairie Farmhouses



Nineteenth-century American and European settlers brought their mental "blueprints" and their metal tools to the prairies. From cultures that emphasized square corners and individual ownership, these immigrants relied on the Kansas environment for much of their building needs. Before affordable dressed lumber and other materials could be transported to Kansas and efficiently delivered to a building site, the farming people of the "new" territory adapted to the circumstances. Some dug into the hillsides, while others cut blocks of sod to use like bricks. In

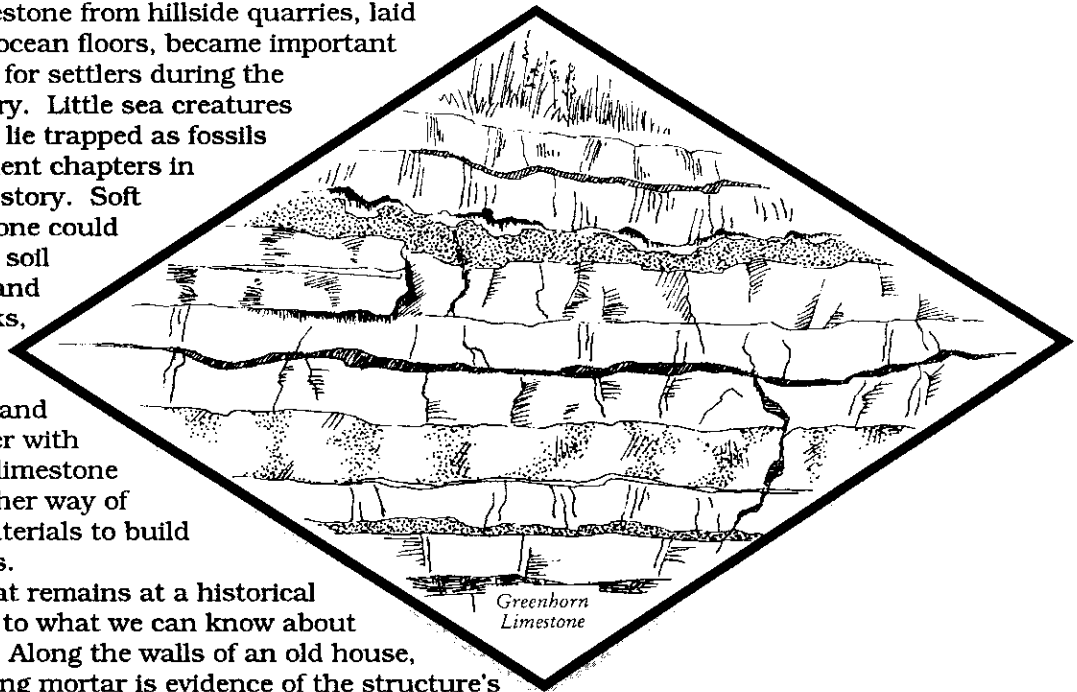
some areas farmhouses could be built of logs or limestone.

Because these new waves of settlers are so recent and because they had written languages,

the stories of their houses survives more clearly than that of the centuries of dwellings that came before. At the Martin farmstead in Republic County, a team of archeologists investigated a Kansas farm that operated from 1875 to 1947. In the process they came to know the place well—the land and the buildings, and the people.

A little stone cabin remained at the heart of the farmhouse with wooden additions built around it. That stone cabin first served the Klima family, Bohemian settlers who homesteaded in 1875. After 28 years of farming, building, and fencing, the Klimas sold to a local couple, the Langs, who added the two-story addition and the screened porch. In 1910 the Martin family arrived from the county next door. Fred and Jesse Martin reared their three daughters here, and the couple farmed for 36 years on the 160-acre property. They used horses to work the land. Milk cows, hogs, chickens, and a big garden provided both food and cash. When the Martins retired in 1947, the land was used to pasture cattle. Before a highway project destroyed most of the remaining buildings, archeologists studied the farmstead to help preserve its story.

Layers of limestone from hillside quarries, laid down as ancient ocean floors, became important building material for settlers during the nineteenth century. Little sea creatures and ocean plants lie trapped as fossils in the stone, ancient chapters in the prairie's long story. Soft greenhorn limestone could be pried from the soil with metal tools and shaped into blocks, which hardened with exposure to the air. Stacked and cemented together with lime mortar, the limestone blocks were another way of using natural materials to build houses in Kansas.



Touching what remains at a historical site adds texture to what we can know about a time now past. Along the walls of an old house, grit from crumbling mortar is evidence of the structure's weathering. A century's worth of sun, rain, snow, and wind have changed the stone blocks only slightly. It was the digging, moving, measuring, and shaping of the rock that made the biggest change. It was the ways in which humans adapted and used this natural resource that brings archeologists to a site—to dig and measure and, in the process, to deepen our knowledge of the past.



Archeology

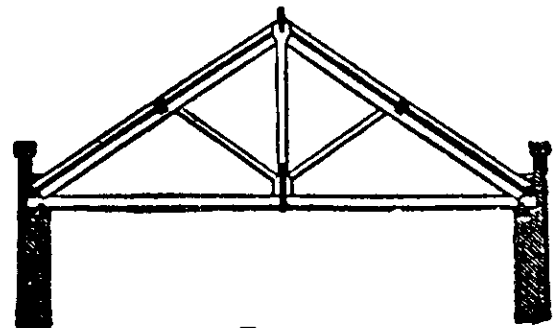
When the Archeology Team arrives to study an old Kansas farmstead, it may find purple iris blooming beside the rubble of a stone foundation. An old barn sags and slumps, its roof collapsing and its walls tattered and vine-covered. This farm was once home to a busy family, but no children swing in the yard and no neighbors come to call. There is no longer a clatter of buckets at milking time nor the jingle of harness as a tired team of horses heads for the barn. No chickens peck and scratch in the barnyard. The people who called this place "home" left their marks upon the land over the past century and a half, and their descendants have moved on. Today construction often uncovers or threatens a site. Archeologists salvage as much data as possible before this happens. The new information adds knowledge to Kansas' written records.



Architecture

The walls of a stone cabin are thick and strong—and very heavy. They act as passive solar collectors, absorbing heat during the day and releasing it at night. They are their own insulation because of their density. The walls of the Martin farmhouse were 18-20 inches thick!

A roof that uses trusses is called a carpenter's roof. It dictates a rectilinear structure, such as the stone cabin originally built on the Martin farmstead. Trusses along the roof span the space (with help from the beams



Truss.

from stone wall to stone wall). The trusses channel much of the load to the outside walls, which in a cabin are both the load-bearing exterior and interior walls. This building shape is traditional, just as the beehive or rondavel shapes are. It required a different tool kit and technology (metal tools and sharp right angles)—and a view of the world in which space could (and should) be divided into right angles, numbered and owned.

The mortar (of lime) between the stones held the stones in place top to bottom, but also side to side. Stresses to a structure occur not only in the upward/downward model presented in Handout #4: *The House that They Built* on page 164, but also side to side as the planet shifts, lifts, drops, or moves sideways. Building materials themselves move as they react to moisture levels in the atmosphere, temperature, ground swells, etc. Some scientists believe, for example, that the longevity of the nineteenth-century stone houses in Kansas is due in part to the extremely long curing time for lime mortar. Tests have shown that it takes years for the mortar to cure, which leaves it somewhat plastic and, therefore, able to compensate for the roller coaster ride that we and our buildings are on. The Earth is a restless place!

Activity: Span Load

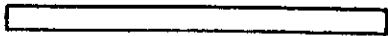
Using Legos, build a rectangular box with open top. Use paper in different configurations (unfolded, folded, stacked) for a roof. Try a piece of corrugated cardboard. Experiment with how much weight each span can carry, using standard weights, such as pennies or paper clips. Add weights until the structure collapses, and count the weights. Which construction can support the most weight? What does this tell you about tensile strength, weight-strength ratio, etc.?

Activity: Joining Methods

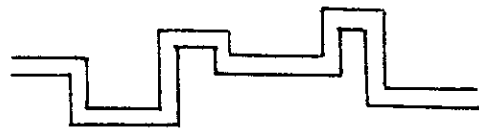
Using Lincoln Logs, talk about the joining methods at the corners and the mortar in the walls that make a log house a compression system. Tipis (see Day Two: Architecture on page 190), hogans, and iglus are American Indian dwellings that belong to the compression structural type. Wooden pegs would have been a possible method of joinery for prehistoric people on the prairie. Why do you think they did not use them in building houses?

Activity: Bearing Wall Strength

Use dominoes to experiment with bearing wall strength in straight versus multi-angle configurations. A bearing wall is both an enclosing part of the structure and an architectural element. Which configurations are stronger? Why?



The straight wall is inherently unstable.



The multi-angled wall is inherently stable.



Context

Mighty changes are afoot for the future. Once economy of scale was the main game in town. Bigger was better. Learning from the disasters of the Dust Bowl (for Great Plains people, soil and water), new conservation methods such as terracing and strip farming seemed to be the answer. Now that farming in the second half of the twentieth century has led to dependence on fossil fuels and commercial fertilizers and pesticides and corresponding damage to soil, water, wildlife, and human safety, farming for the future must lead in other directions. Change as envisioned by nineteenth-century settlers involved making the prairie “desert” into a “garden.” We’ve learned a lot over the years about how Kansas’ grassland works. We’ve also learned that the only way to survive and thrive is to listen to the seasons of this place and to bring about a harmony of spirit and a balancing of “the books” between farming and the land. In the *Salina Journal* of September

6, 1996, Jim Scharplaz wrote, "A rule of thumb is that is that a U.S. farmer burns 10 calories of input energy to produce one calorie of food energy. On an energy basis, our farms are going bankrupt. ... Another rule of thumb is that a ton of soil goes down the river for every bushel of corn we raise."

Welcome to Sunshine Farm. Farming here is like stepping backwards in time and forwards in time—both at once! We raise grain sorghum, wheat, oats, alfalfa, sweet sorghum, sweet clover, sunflowers, and soybeans. We try to find ways to grow crops without commercial pesticides that can poison the water. Our team of Percheron draft horses helps us plant, cultivate, hay, and haul. All the food they eat is raised right here on our 50 acres of cropland.

We farm without fossil fuels, so when we need to disc or combine, we use a special kind of tractor with a big name: it's "biodiesel-compatible." To power this machine, we use an oilseed press that gives us fuel from our sunflowers and soybeans.

Our cow-calf operation is small, but the horns on 'em are big as all outdoors! We raise longhorn cattle, descendants of the Spanish cattle who broke out centuries ago, the kind of cows rounded up over the years by Texas cowboys. Those cattle learned a lot about scrounging around, and they passed what they learned along to their great-great-great-great (well it goes on ...) grandchildren through their genes. They make pretty good use of the food we provide—and they're savvy enough to figure out the rest. They graze 100 acres of native and restored pasture on a rotating basis. In the fall and winter we turn them out onto stubble.

See that pen moving through that strip of alfalfa? We raise 75 broiler chickens in there, moving them so they have a fresh place to scratch. The 50 Rhode Island Red laying hens scratch old hay and straw, and between the broilers and the layers, we're raising eggs, meat, and a bonus—chicken manure. The excreta is spread on the cropland and is about the best natural fertilizer around.

We get our energy from the sun to our photovoltaic solar cells, which keep our grain drying, our maintenance shop running, and that oil press squeezing out the fuel. Wood for heating comes from the farm.

What are we doing here at the end of the twentieth century? What's that tractor of the future doing working side by side with a team of draft horses? The computer holds the answers!

We're looking the twenty-first century right square in the eye. We want to know what the prairie has known forever. We need to balance the environmental budget! We keep energy accounts on everything that happens here—sort of a diary, but more like a bookkeeper's balance sheet. We measure energy, materials, and labor to find out if we can succeed at running a farm successfully on sunlight. Every nail, every pound of feed, even the tractor and the horses have an energy value. Even our own muscle power is counted. Over the 10 years of this experiment, we hope to learn if farming in the future can run without petroleum and commercial fertilizers and pesticides.

Sunshine Farm wants to build soil and do without oil. That's our vision for the future. Stop by any time (call a couple of days before you plan to arrive). We'd like to talk to the kids who will be running the show in the twenty-first century.

Sunshine Farm is one of the projects of The Land Institute (1995) in Salina, Kansas, which seeks to find a sustainable agriculture for the future. The staff uses the natural ecosystem of a prairie; biodiversity is key. Rather than monocultures, which require huge amounts of petroleum and commercial fertilizers and pesticides, they are experimenting with perennial polycultures—more like the original prairie lands. Study of the community of plants and conditions on grasslands shows that the ecosystem handles changes as a community. The resources and species of a prairie are interdependent. The whole is not only greater than the sum of its parts, it is different. They are listening to the seasons of the place, knowing the endurance of prairie ecosystems. Scientists are working the land in new ways and using some old ways, too. They are listening closely to the seasons of the place.

Words and Music

Poetry

| | |
|--|---|
| Yonder it comes. | 4 |
| The expanse of earth is wide | 5 |
| My brother the fox spoke and said, | 6 |
| "Behold and see the wideness of the earth, | 7 |
| the white foxes know the earth is wide." | 8 |

Pawnee
(Cronyn 1962:351)

Reread Suderman's poem (see Day One: Words and Music, Poetry on page 182) and compare the meaning of "Space" as his relatives perceived it with "open space" as indigenous peoples experienced it. In the Pawnee poem above there is much to understand and use for comparison. Consider as many aspects as possible of the scope of this piece (sense of place, science/myth, literate/nonliterate cultures, person-in-environment, etc.) Essential to native cultures is acknowledgment of the wide earth and the wisdom of all its components.

The Old Settler

| | |
|---|----|
| A gingham bonnet shades her wrinkled face, | 4 |
| Which bends above the new-plowed soil, | 5 |
| The years have stolen all her girlhood grace | 6 |
| And marred her hands with grimy toil; | 7 |
| But she still loves the changing moods of earth | 8 |
| That answer to her soul's deep needs— | 9 |
| Her eyes behold the miracle of birth | 10 |
| In each Spring's planting of new seeds. | 11 |
| The neighbors think she is too old to hoe— | 12 |
| Too old to plant her garden plot; | 13 |
| But when the first March winds begin to blow | 14 |
| They see her slowly rake the lot, | 15 |
| Each year she plants the crooked rows again | 16 |
| With hands grown feebler than before | 17 |
| While her dim eyes scan western skies for rain | 18 |
| Just as they did in 'eighty four. | 19 |

Vera E. Eutsler
(Leland 1978:104)

What might the old settler share with a great-grandmother of the Wichita or Pawnee? Women in those cultures owned garden plots, crops, and tools and were in charge of the preparation, storage, and distribution of their harvest. What feelings might these women from across generations and cultures have in common? What other common human experiences dispense with the differences caused by time, space, and cultures?

Discuss human cycles of life. Estimate the woman's age. The poem was written in 1947. Find out what happened in Kansas in 1884, referred to in line 16. Talk about cycles of drought, flood, growing seasons, the "life" of a culture and how it matures and changes. Does it die? Does it change form? What could change our culture?

Use the worksheet in Day Two: Words and Music, Poetry on page 196.

Journey West

| | |
|--|---|
| Whoever travels into Kansas | 4 |
| exploring the great American desert | 5 |
| goes out into space | 6 |
| into the interstellar distances | 7 |
| between the lights of the prairie farms. ... | 8 |

Victor Contoski
(Leland 1978:138)

The reference points by which to orient are the lights of the farmsteads. Consider the ratio of lighted space to the space between. Will that ratio change in the twenty-first century?

Contoski writes of the space between farms as "interstellar" (the distance between stars). Why do you think so many Kansas poems address the stars, the wideness of the land, the vastness of the space?

In the nineteenth century a region was considered settled (no longer frontier) if the population count was one person per square mile. Current population over the grasslands of America is .9 to 1.1 persons per square mile. Find out what the population per square mile is for your county. Discuss "settled," "empty," and other concepts of a space from more than one cultural view.

Myth

Nineteenth-century American and European immigrants to Kansas believed that they could conquer Nature. They believed that the world was the domain of humans and that our American destiny was to occupy and use the land from east to west coasts. They used this idea to promote immigration and make laws to remove indigenous peoples from their lands. The farmer and the plow were symbols of "civilization."

For people in the 1800s, still very much the inheritors of a tree-centered culture originating in Europe, the scarcity of trees on the grasslands was a problem to be remedied as soon as possible. People were convinced that more trees and plowed ground would make the prairie land "productive." The theory was that plowing released moisture from the soil into the air and that the moisture then fell as rain.

Newspaper and magazine articles presented the "wisdom" of "science" and the power of plowed land. They promoted the idea that metal plows, cook stoves, railroad tracks, and even pocket watches and wedding rings could settle "electrical energy" released by plowing and bring about a balance of forces. These "scientific facts," widely published, "proven," and thus believed by the educated and unschooled alike, convinced people that Nature's forces could be dominated by people. The grasslands were seen as a sort of blank canvas on which farmers would "paint," creating a new land.

A Kansas poet known as Ironquill (Eugene Fitch Ware) predicted the transformation of the grassland. Agriculture, he said, would improve the soil, bring more rain, clear the water, control storms, and subdue tornadoes. It would even improve the blue of the prairie sky! Line 52 refers to the soil as sand, a reference to the "Great American Desert." "Fruitage" in line 64 means harvests of domesticated crops (non-native plants).

| | |
|------------------------------------|----|
| ... Into loam the sand is melted, | 52 |
| And the blue-grass takes the loam, | 53 |
| Round about the prairie home; | 54 |
| And the locomotives roam | 55 |
| Over landscapes iron-belted. | 56 |

| | |
|--------------------------------------|----|
| ... Deeper grows the soil and truer, | 62 |
| More and more the prairie teems | 63 |
| With a fruitage as of dreams. | 64 |
| Clearer, deeper, flow the streams | 65 |
| Blander grows the sky and bluer. | 66 |

Ironquill (Eugene Fitch Ware)
From "Quivira—Kansas"
(Leland 1978:22)

The poems from this period lament the aridity of the climate, the grasshoppers, floods, prairie fires, and other "destructive forces" (Nature). The source of their misinformation was the scientific community, whose published professional articles were then reinterpreted in popular newspaper and magazine articles. The commonly held belief that "rain follows the plow" became law with the Homestead Act. Another notion—that trees brought more rain—was the basis for the Timber Act. Because environment, ecosystem, soil conservation, ecology, and other modern views and disciplines had not yet developed, almost no one questioned the "common knowledge" of the day. Much grief and damage could have been avoided if anyone had thought to ask advice from the native peoples, who had been growing crops here for centuries. Compare "scientific truths" of the nineteenth century with what we have learned since that time about grassland ecosystems. What might we consider a scientific "truth" today that in a hundred years might be a "myth?"

Tall Tale

Another kind of tall tale seemed just as funny, a sort of liar's one-upmanship about how much larger than life everything was here in Kansas. Boasts about the fertility of the soil and the size of plants are the antidote for all the "misery" or "complaint" stories. Having both kinds of tale to tell is a way of coping with problems. It also binds the teller to the place, giving a sense of belonging to the place through good times and bad.

"... in Kansas ... it was said that just dipping one's foot in Kansas mud could cause it to sprout roots and grow so big that it was necessary to wear *at least* size 18 shoes" (Welsch 1972:59-60)

If the Kansas mud is that rich, what happens along the banks of the creeks (pronounced "cricks" by some Kansans), streams, and rivers? In fact along waterways the soil is easier to work and is very fertile. Why would this be true? (See Quotation on page 214.) This was important for the Village Gardeners who farmed the land along the water.

With that much fertility in the soil, if you dropped a word on the ground, why before you knew it, a tall tale would have sprung up! Tell another tall tale of your own. How fertile is the Kansas soil?

Folk Music

Activity: Folk Band

Gather kitchen items (pots, pans, spoons, spatulas, bottles, cans, etc.) and natural items (sticks, pine cones, bark, seed pods, rocks, etc.) to use as instruments in a "folk band." Let students try different instruments until they find what suits them best. Try humming along or adding just one sung or spoken syllable, such as "Oh." Try some of the folk songs from the unit. Practice for a performance on Day Five.

Song and Ceremony

Bless this House

Bless this house, oh Lord, we pray,
Make it safe by night and day;
Bless these walls, so firm and stout
Keeping want and trouble out;
Bless the roof and chimneys tall,
Let Thy peace lie over all;
Bless this door that it may prove
Ever open to joy and love.

Bless these windows shining bright,
Letting in God's heav'nly light;
Bless the hearth a-blazing there,
With smoke ascending like a prayer;
Bless the folk who dwell within,
Keep them pure and free from sin;
Bless us all that we may be
Fit, oh Lord, to dwell with Thee,
Bless us all that one day we
May dwell, oh Lord, with Thee.

Helen Taylor and May H. Brahe
(Bock 1983)

Compare this song with the Wichita House Building Prayer (see Day Two: Words and Music, Song and Ceremony on pages 194-195).

***** Families and Neighbors**

Nearly everything you eat started on a farm. Check it out!

Feeding the people of the world means believing in agriculture. Planning for the future requires everyone—every step of the way from farm to home—to work toward sustainable agriculture, agriculture that can survive so that we can survive.

Farm families from prehistoric times until now care about more than producing food. A family can be a mom, dad, and kids or grandparents, parents, and children or two families with cooperative responsibilities to one another and to the crops. One of the best parts of farming as a family is the sense of “the place.” Stewardship of the land, water, air, and other resources is job number one for a farming family. Without it, there will be no harvest—only disaster.

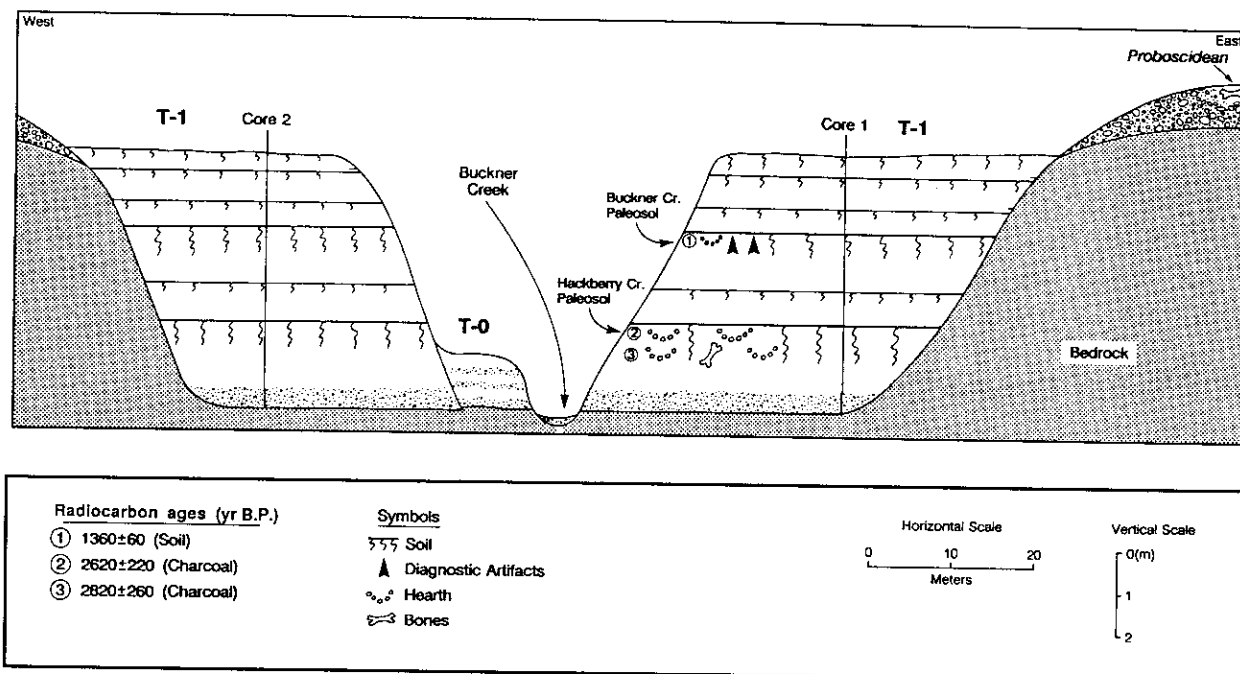
The Kansas Rural Center in Whiting, Kansas, knows that farming communities depend on the relationships among farm families and the folks in town, who all in turn depend on the land. The connections between the land and people, people and families, families and neighbors, neighbors and communities is essential if the land and the ways of life are to survive. The Center works with farm families toward long-term health of the land and its people. With profit as the only motive, a corporation owes nothing to the land. “Use it up and move on” is a short-sighted outlook. The “apply more chemicals” practice destroys the life-giving water. Farm families understand and care for their land. As the century turns from the twentieth to the twenty-first, more and more farmers seek ways to care for the land that gives them their way of life and is home for their families.

“” Quotation

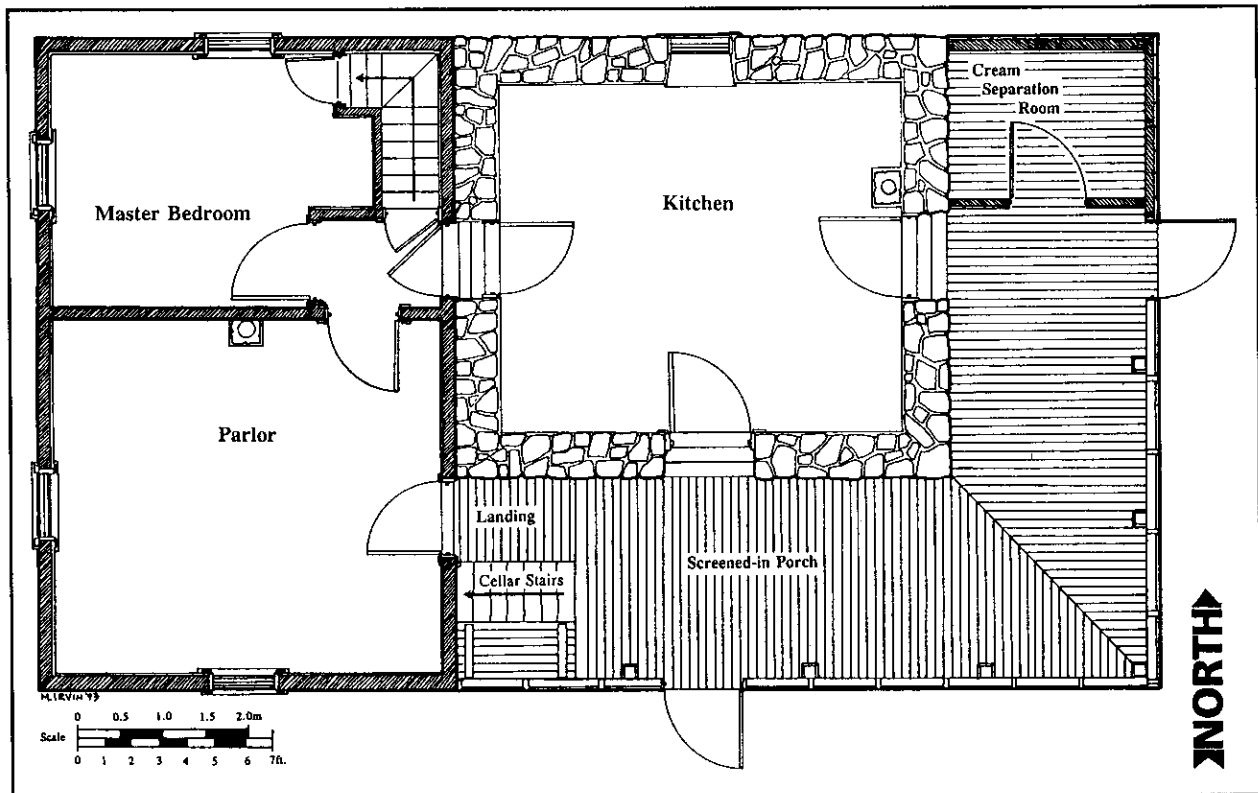
Rolfe Mandel says, “Looking at the land surface cannot always reveal what lies below it, especially in a stream valley. In many cases, the artifacts and features are deeply buried by stream deposits and, therefore, have become a part of the sedimentary (geologic) record. The Archeology Team needs to understand geology to help explain the human past.”

Rolfe is a geomorphologist. Wow! Take the word apart. (Dig for the information, just as an archeologist does.) Since “ologist” means “scientist who specializes in ...,” look up “geo” and “morph” and put the meanings together. Both “geo” and “morph” are Greek derivations.

Once you understand what Rolfe does, figure out how he helps the Archeology Team. Look at the drawing he made of a stream valley in Hodgeman County (Mandel 1994:47). Where is the surface of the land today? Where are the artifacts? How many meters below the surface are they? How did they come to be buried?



Worksheet: Floor Plan



Martin Farmstead, 14RP322, Republic County, Kansas, 1875-1947. The stone foundation marks the original 1875 stone cabin before additions.

Site Name: _____ Site Number: _____

Location: _____ Date of Site: _____

Scale: _____

| <u>Symbol</u> | <u>Meaning</u> | <u>Symbol</u> | <u>Meaning</u> |
|---------------|-------------------|---------------|------------------|
| | directional arrow | | stairs |
| | window | | door opening |
| | door | | stone foundation |

DAY FIVE: HERITAGE

Background

Preserving the archeological heritage of Kansas is a main goal of the Archeology Team at the Kansas State Historical Society. Use today as a celebration and commitment to that responsibility.

Topics



Prairie Farmhouses

Build your own house! Ownership and sense of place are created and enhanced in the vernacular process of building a structure. Applying architectural principles, problem solving, teamwork, conceptualization, and execution—plus a sense of achievement—are benefits of letting busy hands and informed minds work together. See Projects: Hay Bale House on page 165.



Archeology

Activity: Recording the Hay Bale House Site

Map, draw, measure, weigh, and take careful field notes before and after construction of the hay bale house and again when the structure is dismantled. Compare amounts of knowledge available at each stage of the house's "life." Compare this with an archeology team's investigation of a prehistoric dwelling site. Talk about what would be left in the case of fire, flood, abandonment, passage of time, etc.

Activity: Field Trip

Take a walking field trip. Use the worksheet from Day Two: Words and Music, Poetry on page 196. Ask students to note artifacts, human-made, and natural features that they see along the way. As you go, recite the "walking song" from Getting Ready: Words and Music, Poetry on page 174.



Architecture

Review with students the differences between vernacular architecture and formal architecture. Using the chairs, blankets, broom handles, etc. assembled earlier, test students' knowledge of architectural terms, such as bent frame, post and beam, span, truss, etc.



Context

Think about some of this unit's material from a totally different perspective. For example, try describing the prairie from a sunflower's view. An earthworm's point of view. What is home? What is space, time, and place to the earthworm? See what Henwood (1988) and Hess (1979) have to say.

Review the poetry for this unit, identifying from what or who's perspective each is presented.

Words and Music

Poetry

Recitation of poetry was, until recent times, a weekly part of school work. Any of the Kansas poems in this unit (or a selection from the thousands of others or an original piece) could be recited for the class and guests. Poetry reading is also a Kansas school tradition and is an alternative.

Write a poem from an unusual perspective—the Prairie's point of view or that of a bison, an earthworm, an astronaut in space. The poem could describe the geometry of the landscape from an airplane and those natural features that defy geometry.

Let @The Poetry Haters@ speak. What have they learned? Do they still hate all poetry? Could "This Is the House that They Built" in Handout #4: The House that They Built on pages 161-162 have a use in memorizing schoolwork?

Myth

A good imagination and a pinch of science are both parts of a science fiction writer's tools. Jules Verne's 1865 *From the Earth to the Moon* and some ideas by H. G. Wells were truly science fiction. However, in 1919 Robert Hutchings Goddard wrote *A Method of Reaching Extreme Altitudes*. Newspapers made fun of him, calling him "The Moon Man." Find out who had the last laugh. Read *Rocket Man: The Story of Robert Goddard* by Tom Streissguth (1995) or *Rocketry: From Goddard to Space Travel* by Christopher Lampton (1988).

Watch an episode of *Star Trek*. Identify some of the tools, technology, and culture of this work of science fiction. Label the items on your list as "absolutely impossible," "might be possible," "possible," "very likely to happen." Compare your list with how the following theories were once treated: rockets, space travel, humans on the moon, dinosaurs, continental drift, genetics, germs, archeological sites in the Great Plains, etc.

Tall Tale

Activity: Tall Tale Theater

Tell tall tales (those in this unit and/or those students have told this week). Prepare a couple of sets with props ahead of time. For example:

- ▲ over the clothesline—a clothesline with clothespins, basket of laundry, and a box fan (to blow like a Kansas wind)
- ▲ over the fence—large sturdy cardboard tubes (like those from a roll of carpet) for fenceposts and "wire" of your choice
- ▲ over a cup of coffee—table and chairs, coffee cups, salt and pepper, menu

Activity: Preposterous Postcards (Did you remember postage stamps?)

Use designs printed on card stock from the Giant Fruit/Vegetable Building activity in Day Three: Tall Tale. Each student should "drop a line" to the folks at the place they call home. It can be a short tall tale, a fact learned from this unit, or just "hello." Stamp and mail.

Folk Music

The Folk Band performs (see Day Four: Words and Music, Folk Music on page 212).

Song and Ceremony

Use the fifth bookmark on the template on page 160. Formalize the message in Families and Neighbors by performing a ceremonial signing of the commitment to help preserve Kansas' archeological resources, an important part of our state's cultural heritage.

Lead a discussion of how the unit's elements are all connected by space and time and by those aspects of being human that are present in every culture. Talk about the differences between a song/ceremony and a folk song or folk dance. What is a ritual? What does "sacred" mean to our culture? To others? Specialists in our culture, such as designers and builders, separate us from some of the experiences of earlier cultures. Nonspecialization is part of the vernacular tradition. Does that mean, though, that all individuals were exactly the same in ability, desires, etc.?

*** Families and Neighbors

Let's be partners! Archeologists invite you to join them, to share the joy of discovery AND the responsibility of preserving the archeological heritage of Kansas. Here's what you can do, Partner ...

Study Kansas as a natural and a cultural environment. The Education/Outreach Division of the Kansas State Historical Society will lend your class trunks full of information about our state's archeology and the different peoples who have made this place their home.

Read about Kansas' unique cultural heritage at your school or public library.

Check it out on the Net. Artifacts, new discoveries, and fresh theories are as close as the nearest computer! Start with some of the addresses in Sources on page 241.

Visit your local museum or the Kansas Museum of History in Topeka, where there are stone, bone, and metal tools, a grass house exhibit, and lots more! Take a trip to the Pawnee Indian Village State Historic Site near Republic. You'll see the floor of an earthlodge where Republican Pawnee families lived in the 1820s and 1830s.

Ask questions. Teachers, librarians, parents, members of your local Kansas Anthropological Association (KAA) will help you learn more. Who knows? You may decide to study to become an archeologist!

Keep your eyes open. If you notice an artifact or clue, guard it! Leave it in place until your partners, the Archeology Team, can investigate. Here's the number to call: 785-272-8681, extension 268.

Remember: Archeology is a science that depends on the help of people everywhere. Because each piece of information fits next to the pieces around it, moving a clue would confuse its meaning.



“” Quotation

President of the National Trust for Historic Preservation Richard Moe (1997:5) says, "Historic preservation on the threshold of the 21st century is about much more than bricks and mortar. It is about saving, creating and enhancing community."